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ORIGINAL LECTURES.

A CLINICAL LECTURE ON LUMBAR ABSCESS.[1]

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MERCY HOSPITAL CLINIC.

SERVICE OF PROF. EDMUND ANDREWS, M.D., LL.D., AND E. WYLLYS ANDREWS, A.M., M.D.

GENTLEMEN:—This patient has a large interior abscess pointing in the right lumbar region. There is no deformity to suggest caries of the spine, but the caries might exist without the deformity being yet developed. The elder Gross put on record the statement that these abscesses always or nearly always spring from carious vertebræ, and with like uniformity terminate in death. Erichsen and others are of the opinion that the causes are generally tubercle.

Both these opinions are erroneous. The connective tissue in the interior lumbar region is liable to inflammation and suppuration from various causes, just like connective tissue anywhere, and when it occurs, a lumbar abscess results, whether the bone is diseased or not. Dr. Gross based his opinion on post-mortem statistics. Now we should reflect that all-important as dead-house studies are, yet the pathologist sees there only fatal cases, which differ in many respects from the thousands that recover, and do not appear before him. Some dead-house pathologists do not bear this in mind, and judge the living cases too much by the post-mortem conditions. Certainly many cases of lumbar abscess recover under modern antiseptic treatment, and show no signs, either before or after, of tuberculosis. However, do not look at this matter entirely from one side. There is no doubt that in many cases caries does exist, and that part of these are tuberculous. We live in a somewhat non-tuberculous region as compared with the North Atlantic seaboard, tuberculous diseases here being, perhaps, thirty or forty per cent. less frequent than there. Hence I have no doubt that lumbar abscesses are less frequently tuberculous with us than with our Atlantic coast pathologists.

However this may be, the patient before us is not proved to have either caries or tubercle. There is no proof of any syphilitic diathesis, and the urine contains no albumen. There is nothing to forbid the hope of entire recovery so far as external examination goes.

The patient has been already subjected to four aspirations. The object of this was two-fold: *First*, a considerable number of lumbar abscesses can be completely cured by from three to eight applications of the aspirator; and *secondly*, if these fail, we at least keep the sac collapsed for a considerable time, and thus enable it to contract its walls and diminish its magnitude. When the aspirator method is successful in effecting a cure, you will observe that the pus grows more watery at each drawing, and finally may be almost pure serum. In this case, as you remember, we have aspirated four times, washing out the cavity with carbolated water at the strength of two and one-half per cent., without effecting any improvement in the pus. I conclude that the aspirator plan will not be likely to succeed in this case, and we must proceed to treat it by the open method.

Before the development of antiseptic surgery the opening of lumbar abscesses was greatly dreaded. Abundant and melancholy experience had shown that immediately after the opening the pus of the vast interior cavern underwent putrefaction, and by its absorption rapidly poisoned the patient. Hectic set in, exhaustion followed, and death early or late closed the case. I recollect well a gentleman who kept at his office work in fair health until the abscess was as thin as paper, and about to break spontaneously. In accordance with the doctrine then prevalent, I had postponed the opening to the latest possible moment. Seeing the rupture was about to take place, I took him from his office still in apparent good health, gave him tonics, and opened the cavity. A vast collection of pus rushed out, hectic soon followed, and in two weeks he was dead of blood poisoning. Now, with antiseptic measures, all this terror has vanished like an ugly dream. The internal caries, or tuberculosis, if present, may not be always curable, but the opening of the abscess is no longer a serious danger. Let me impress it upon you that so far as lumbar abscess alone is concerned, it is only dangerous when it is so complicated in its internal burrowings that it mechanically prevents you from disinfecting and draining all parts of it. We need here a bolder surgery than we have formerly practised to enable us to open up and tube the interior.

You see this fluctuating tumor on the patient's right lumbar region, between the ribs and the crest of the

[1] Delivered at the Mercy Hospital, Chicago.

ilium. It gives a succussion upon coughing like a hernia, but hernia rarely exists here, and besides, there is no resonance of air in it such as a hernia is likely to present. Still, at the beginning of these cases always test the contents with a small aspirator tube to make sure of the diagnosis. This fluctuating prominence is the outer sac, just under the integuments. A lumbar abscess pointing externally consists of an inner and an outer sac, connected by an isthmus or tube which is sometimes an inch in diameter and sometimes smaller than a pencil. As this outer sac is proved to contain only pus, it may be freely opened without fear, but this alone will not enable you to disinfect the interior sac. Injections thrown into it, even with some force, do not pass freely through the isthmus into the interior cavity. Opening the sac, therefore, widely, I search with my finger for the channel leading to the interior cavern. Usually it will be found just outside the common mass of the erector spinal muscles, where the thin fascia of the abdominal muscles emerges from under its border. Often the inner orifice will be found in the angle formed by the crest of the ilium with the spine. In this case, I find the channel just outside the erector spinæ, and on account of its size readily insert my finger into the inner cavity. I perceive that the latter is ovoid in form—about six inches long, and three inches in its shorter diameter. It is simple in shape, and presents no long passages extending out beyond the reach of my finger. The upper and posterior part extends a little up into a sort of pocket behind the right lobe of the liver, but the end of the pocket is a rounded cul-de-sac easily reached by the finger, and presenting no extension beyond.

The place where the kidney should lie is vacant. This does not mean that the kidney is destroyed, but only that the abscess, burrowing behind it, has loosened its posterior attachments, lifted it out of the hollow of the ribs, and crowded it with other tissues forward and inward. All along the inner border of the cavity my finger explores the side and part of the front of the spinal column. Here is the place to search for caries. After carefully exploring every part, I find that the bone is everywhere covered with a sound periosteum, which is not thickened as in bony inflammation, and reveals delicately to the finger the natural curves and hollows of healthy vertebræ. I find no naked bone anywhere, and no change of form. These vertebræ are therefore sound. This exploration is important, both for diagnosis, and because in some instances a sequestrum can be found and removed, and in others carious spots can be safely scraped. An examination of the inner surfaces of the ribs shows these bones also to be sound.

This, then, is purely an abscess of the soft parts, and quite hopeful of cure. I now wash it out clean with an antiseptic solution, put in a drainage tube reaching well into the depths of the inner cavity, and dress it antiseptically. You will find that this patient will have no hectic; she will have a good appetite, she will improve in color and flesh, and if the drainage and antiseptic washing be faithfully carried out, she will probably recover.

No. 6 Sixteenth St., Chicago.

ORIGINAL ARTICLES.

THE TREATMENT OF PULMONARY DISEASE BY PNEUMATIC DIFFERENTIATION.

BY ALFRED S. HOUGHTON, M.D.,

OF CHICAGO.

A novelty in therapeutics, be it a drug or a device, is liable to suffer one of two fates, *i. e.*, disuse from merited distrust, or misuse from misplaced confidence and unwarranted enthusiasm. If the pneumatic cabinet, which is open to the reproach of novelty, justifies its existence by a promise of sound usefulness, it is to be hoped that the profession will save it from both of these fates. Its proper place and uses should be fully determined by competent and reliable men, and it should be prevented from falling into the hands of unscientific investigators. That it has a useful place among the weapons that comprise a physician's armament, it is the object of this paper to show, but just how extensive its field is, remains for time and thorough investigation to demonstrate.

Dr. Vincent Y. Bowditch, in the *Boston Medical and Surgical Journal* of July 16, and the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, of August 1, confirms the cases reported by Dr. H. F. Williams in the *Medical Record* of January 17. Dr. Williams' further report of these cases and others before the Climatological Society appears in the *New York Medical Journal*, of October 3.

The cabinet is an instrument by means of which the following results are sought:

1st. The strengthening and developing of weak and poorly expanded lungs.

2d. The arrest of pulmonary disease in its earlier stages.

3d. The prolongation of life with comparative comfort in those cases of pulmonary disease in its later stages where a cure is impossible.

It is well determined that high altitudes have a marked influence over pulmonary disease. It has always seemed to me that John Hughes Bennett was right in saying "that if the process employed by nature could be discovered, and then imitated by art, we might ultimately arrive at the true principle of cure." Acting upon the belief that it was the influence of atmospheric pressure that gave to "high altitudes" their beneficial effects, the cabinet was constructed.

The cabinet is an air-tight chamber, in which the patient sits or reclines, breathing from the outside through a flexible tube. We exhaust a small portion of the air about him, causing a deep, easy and pleasant inhalation, filling every part of the lungs with the air or spray, producing a stronger and more regular circulation, bringing the blood into complete relation with the oxygen of the air, and introducing the medication in every recess with ease; we have now simply aided the patient to take a deeper breath than he otherwise could. We can then either produce a compression of the air about the body, compelling an evacuation of the lungs, and repeat the former movement, or we can continue the rarefied condition

and let the patient expel the air by his own efforts. In this latter way we produce the same effect upon the lungs that a dumb-bell does upon the muscles of the arm, for the effort is to *exhale* and not to inhale. We thus have such complete control over the movements of respiration, that we can increase or diminish the force, frequency and depth of each breath at our pleasure, and without the slightest effort or discomfort on the part of the patient.

In addition, the mucus which patients attempt to remove by coughing, and which they can often only detach in small portions and sometimes not at all, is by this method loosened and easily expectorated. The lungs can also be medicated and disinfected in a better manner than by any other method. The Semple Inhaler is the best spray-producing apparatus I have ever seen.

The following are the solutions that I have found useful, the last four being prepared expressly for Semple's Atomizing Inhaler by Parke, Davis & Co. The vehicle consists of fluid cosmoline, and in combination with various oils and balsams, the spray being more like a smoke.

Solution No. 1.

℞ Sol. Lugol.....3ss.
Glycerine.....3iii.
Aquæ ad.....3x.
M.

No. 2.

℞ Hydrarg. Chl. cor.....gr. iv.
Ammon. Chl.....gr. x.
Glycerine.....3ii.
Aquæ ad.....3viii.
M.

No. 3.

℞ Ammon. Chl.....3ii.
Glycerine.....3iss.
Aquæ ad.....3iv.
M.

No. 4.

℞ Calc. Hyphophos.....3i.
Glycerine.....3i.
Aquæ ad.....3iii.
M.

No. 5.

℞ Sol. Lugol.....20%.
Sol. Acid Carbol.....1%.
Ext. Hamamelis.....aa 3i.
M.

No. 6.

℞ Ol. Picis liq.....3ss.
Fl. Cosmoline.....3i.
M.

No. 7.

℞ Ol. Eucalypti.....3i.
Fluid Cosmoline.....3i.
M.

No. 14.

℞ Acid Carbol.....gr. x.
Fluid Cosmoline.....3i.
M.

No. 15.

℞ Fluid Benz. Comp.....3i.
Tinct. Cosmoline.....3ii.
M.

These last should always be diluted with cosmoline. So far as the medication is concerned, we have in the cabinet a means by which agents can be more easily, thoroughly, and deeply introduced than by other means, as is evident from the following facts:

Volumetric tests have shown us that by the use of the cabinet the amount of air inspired during each inspiration is increased from 50 to 100 per cent. over the amount inspired during normal tranquil respiration. This air is saturated with the medicament, as already explained. Repeated and exact hygrometric and manometric tests have shown that if air is thus (unconsciously to the patient) introduced at a pressure of five-tenths of an inch, the effort to expel the same, or the expiratory movement, as well as the friction and inertia of the air passages, is equal to five inches, or an increase of 950 per cent., or a corresponding diminution of moisture in the air inhaled; against this, however, we have to consider the increase in moisture-carrying capacity due to higher temperature in the lungs; taking this into consideration, we have between the inspiratory and expiratory movements a reduction in vapor-carrying capacity and a consequent condensation of vapor at the farthest point reached by the inspired air, and as our volumetric measurement has shown that the entire air capacity of the lungs is occupied, the entire ærating surface must be bathed with the condensate; numerous experiments have shown this to amount to about twelve per cent. of the medicament used. Thus it will be seen that the effect of differentiation alone is not by any means the only beneficial action of the cabinet.

In contemplating the differential process more especially with reference to the respiratory movements and their effect upon the pulmonary capillary circulation, I have been so impressed with the intimate connection between them that I have come to conclusions that, while they are apparently at variance with much that has the sanction of investigation, nevertheless seem to me to harmonize with and rationalize much that is not very clear. Instead of regarding the initial steps in the tuberculous process as due to external and specific causes, I have come to regard primary pulmonary infiltration, whether it be perivesicular or intervesicular, as the result of a simple mechanical law, *i. e., that force operating behind and resistance offering in front results in an unvarying manner, dependent upon the amount of force and the extent of resistance.* The force in this case is the right ventricle; the resistance resides in the pulmonary capillaries.

But here comes into consideration another force which we shall find is to exert no small influence, viz.: the movements of respiration, for they may act to either increase the force operating behind or the resistance offering in front, the result being very different in one case from what it is in the other. Atmospheric pressure acting upon the pulmonary capillary circulation can effect either its retardation by antagonizing the action of the heart, or its acceleration by overcoming the resistance of the capillaries. The right ventricle alone is physically unable to propel the blood through the pulmonary capillaries with sufficient force to bring back a sufficient quantity to the left auricle to maintain the circulation (Draper). When the pneumogastric nerve is cut and the movements of respiration retarded and eventually stopped, we find the lungs solidified in a peculiar manner, for they are smaller and empty of air (Dalton).

What, then, is the force that carries on and perfects the capillary circulation through the lungs? If we produce artificial respiration in an animal in which the movements of respiration have been abolished, and in which the capillary engorgement has occurred, together with arrest of the heart, we will not only overcome the engorgement but reëstablish the cardiac pulsations (Dr. Cartwright, *Boston Medical Journal*, Jan. 7th, 1852). It is therefore *proved* that the movements of respiration are the mechanical aid in complete pulmonary capillary circulation. Now comes into consideration whether inspiration or expiration is the essential force in propelling the blood to the left auricle.

[Note.—It is held that during inspiration the ef-

fect of the diminished atmospheric pressure within the thoracic cavity not only causes the expansion of the lungs and inspiration of air, but also the *aspiration* of blood into the thoracic blood-vessels; that this does occur to a certain extent is certainly proved, but not to the extent of affecting the pulmonary capillary circulation, is evident when we consider to what advantage the atmospheric pressure acts through the open trachea and bronchi upon the air vesicles, as contrasted with the closed and resisting tissues about the systemic circulation. Foster, in his work on Physiology, devotes several pages to this subject, but one important fact is overlooked; and that is, that no amount of rarefaction about a vessel will cause its expansion unless its cavity communicates with the atmosphere; for it is the pressure of the atmosphere that compels the expansion. To talk about the aorta being increased in calibre by the effort of inspiration, seems absurd; and, when we come to consult the diagram he gives of the effect on blood pressure and its relation to the intrathoracic pressure produced by the respiratory movements, we find that the opposite from what we had been led to expect, was true. He says: "When, however, the respiratory undulations of the blood pressure curve are compared carefully with variations of intrathoracic pressure, it is seen that neither the rise nor the fall of the former are exactly synchronous with either diminution or increase of the latter." The fact is, that the rise in arterial tension follows closely the inspiratory act, and that the fall corresponds with the expiration. What does this teach? That inspiration is a *force;* that it is the "*prime* force in originating the circulation." (Draper.) My experiments with atmospheric pressure during the last two years compel me to this conclusion.

How can atmospheric pressure affect cerebral circulation, protected as it is by the unyielding calvarium? Is it not a much more rational explanation to give to the increased arterial tension due to inspiration, the position of cause in the cerebral wave mentioned by Foster?]

Having decided that inspiration is *the* movement that furthers the capillary circulation through the lungs, we now come to consider the effect of expiration. If we study the microscopical appearances of a pulmonary lobule, we find that the capillaries dip down between the alveoli, and are so arranged that the expansion of the air vesicles *must compress* them, and that the contraction of the air vesicles must not only allow them to be fully filled with blood from the right heart, but compel a temporary stasis of the blood in them, owing to the increased resistance which the absence of inspiration permits. It is shown, then, that inspiration acts to further the pulmonary circulation by removing the stasis that has occurred during expiration, and overcoming the capillary resistance in front; but the moment the movement of inspiration ceases, the stasis re-occurs, for the force that has been acting ceases, the diaphragm begins to rise, the ribs to fall, and the atmospheric pressure is overcome.

What happens then, when the inspiratory movement is not vigorous? By vigorous, I mean normal vigor, sufficient to expand every air-cell, but not forcibly. When any portion, no matter how small, is not fully expanded? There must be stasis, and attendant upon stasis transudation, dependent upon the extent of non-expansion and its area. Now, where will such transudation occur? We have shown that when the movement of inspiration is not exerted in any portion of the lungs, no matter how small, it increases the resistance, and consequently the point of deposit must be on the cardiac side of the resisting point, into the weakest structure, therefore *perivesicular*.

But we have another condition when the movement of inspiration *is* not only vigorous, but forcible; when the heart's action is also vigorous, when force is augmented by force, but now the point of resistance has passed to the thin wall of the fully expanded air-cell, and the rupture and deposit takes place there, and we have *intervesicular deposit*. In other words, we have in the first case, a passive condition of the lungs acted upon by a force that alone is unequal to the task of overcoming the resistance, and the stasis that follows results in perivesicular deposit. In the second case, we have an active condition of the lungs acted upon by an accelerated heart, increased primarily by the inspiratory movement, but resisted secondarily by the same movement having been converted from force into resistance, resulting in intervesicular deposit.

[NOTE.—To make this latter point clear, let me remind the reader that in forced inspiration we have, as is seen in emphysema, an exsanguinated condition of the alveolar capillaries; imagine, therefore, a vigorous inspiratory movement not sufficient to cause emphysema, but such as one takes when subjected to sudden cold, at a time when the heart's action is rapid and forcible; as the air-cell expands it augments this force, especially, as towards other lobules, in which the expansion being forced, it reaches the point when it becomes resistance. I do not mean that under such circumstances transudation always occurs, but when for any reason it does occur, it must be into the air-cell itself.

Let x represent the heart's force; y the inspiratory vigor; and z the capillary circulation. Then we may represent these conditions by the following equations.

x	$+$	y	$=$	z
x	$-$	y	$<$	z
x^2	$+$	y^2	$>$	z
x	$<$	y	$+$	z

With perfect equilibrium between force and resistance, no deposit can occur. Deposit once having occurred, the subsequent changes depend on varying influences. The bearing of this upon pneumatic differentiation is clear, because, if correct, the rational treatment (theoretically) is to restore the equilibrium between force and resistance, and it naturally follows that the nearer we approach to the condition of primary deposit the more readily can aid be afforded. Let us see then if *theory* is borne out by experience.

It may be here objected that the pressure used in the cabinet must be greater than vigorous inspiration, and therefore further the production of intervesicular

deposit. I do not doubt that this is possible, if the pressure be carried up to two or three inches, but this is never done, and further coughing exerts more strain on the air-cells than is possible in the cabinet; further, it is shown that the heart is not accelerated.

Dr. Williams reported in the *Medical Record*, of January 17th, sixteen cases of primary deposit and acute phthisis, ten of whom recovered. It was my good fortune to be familiar with the majority of these cases, and to examine them, and it is hardly necessary to state that the nearer their condition approached the primary deposit the more complete was the removal of the adventitious sounds.

In reporting the following cases, I shall classify those of phthisis more in accordance with their acuteness or chronicity (that is nearness to primary deposit) than with reference to their anatomical or pathological characteristics; accordingly I shall speak of acute phthisis as consisting of three stages: the first extending from the initial infiltration to the begining of the febrile movement; the second extending from the advent of the febrile excitation through the period of deposit extension to the period of septic disintegration, which constitutes the third stage of excavation. I shall include under the term chronic phthisis, those cases of chronic pleurisy and chronic pneumonia that have fibroid pulmonary deposit and also syphilitic phthisis. I consider the *first stage* of phthisis as present when the slightest evidence of diminished pulmonary expansion and respiratory vigor is present, and it is here that the influence of pneumatic differentiation, together with action of well selected agents, cuts short the impending process. I regard the second stage as beginning when the temperature runs above 100° or 101°, it is here that antiseptics and germicidal agents must be pushed to the limit of prudence if we hope to prevent the development of the third and *last* stage, when septic degeneration and excavation have taken place. Dr. Williams reports five recoveries in patients who had reached this stage. Such results seem almost incredible, and are shown by further reference in his last publication to be exceptional, yet these undoubted results inspires the hope that by judicious selection of "antiseptic," "tonic," or perhaps "nutritive" agents we can at least prolong the lives of such patients in comparative comfort.

The following table embraces all the patients that I have independently treated with the Pneumatic Cabinet, ten of whom were treated with a primitive apparatus in Milwaukee. These ten embrace three of primary deposit, two of second stage, one of third stage, and one of chronic phthisis, two of whom died:

	No. of Cases.	Recoveries.	Improvements.	No Improvement.	Result Unknown.	Deaths.
Chronic Bronchitis	5	1	1	1	2	
Asthmatic Bronchitis	2		1	1		
Asthma	1	1				
Acute Phthisis, first stage	9	4	4	1		
" " second stage	4		3	1	1	
" " third stage	5		1	1		2
Chronic Phthisis	7		2		3	2
Unresolved Pneumonia	1		1			
Total	34	6	13	5	6	4

Number in whom result is not known, six, of whom six took less than three treatments each.

Of the four cases of acute phthisis, first stage, that were improved, two are still under treatment, one is in California for the winter, and the other took treatment in Milwaukee up to the time the apparatus was useful; the one case that did not improve only took nine treatments. Of the three cases of phthisis in the second stage that improved, two are still under treatment; one went to California a year ago and I have not heard from him since. The case of third stage phthisis that is marked as improved, was already almost fully recovered when she came to me through Dr. Casselberry, of this city; she took seven treatments, and the doctor thought her slight cough was better, and noted an increase in expansion of half an inch. The two cases of chronic phthisis that were improved were both fibroid in character; one has gained ten pounds in weight and half an inch in expansion; the other about half an inch in expansion. The deaths in chronic phthisis occurred in advanced cases, one of fibroid phthisis, with bronchiectasis, the other of syphilitic phthisis.

One death in the third stage occurred in a case in which the symptoms of septicæmia were the most violent I have ever seen; the other was in a case in which decided and continued improvement was present so long as the apparatus was air-tight. The following is the history:

Mrs. E. O., aged 40, married; present weight 130 pounds. First seen August 21, 1884, with Dr. O. W. Carlson, Milwaukee. History of pneumonia two years previously, followed by great emaciation, night sweats, cough, with profuse expectoration and hæmoptysis. Physical examination revealed dulness, increased vocal fremitus and resonance, with bronchophony lower lobe of left lung. Temperature, A.M., 100; P.M., 101.2; pulse 100, respiration 29. First treatment was solution No. 2, under pressure of two-tenths of an inch for ten minutes. This treatment was continued thrice weekly, the pressure being gradually increased to seven-tenths of an inch.

November 6th her weight was 139 pounds. Temperature had been normal for two months, and respiration 16. The cabinet gave out Oct. 29th, and on the 13th of November her temperature was 101.2; after that she gradually grew worse and died last spring.

Of the four cases of recover in first stage phthisis all but one had more or less deposit; she complained of soreness of the chest, with cough, and as her brother had died of phthisis, her friends brought her to me for the purpose of strengthening her lungs. She is now perfectly well, the moral effect of the treatment has removed the morbid fear she had of consumption. The other cases I will give as full an account of as space will permit.

Case 1.—Henry B., aged 15, came to me through Dr. P. C. Jenson, who will give a full account of the case. (See following article, this number, p. 510.)

May 29th Henry weighed 72 pounds, and was quite anæmic. Physical examination showed marked infra-clavicular depression, increased vocal fremitus and resonance, dulness and diminished respiratory

murmur, and cog-wheeled respiration on the right side at apex and infra-clavicular region. Temperature, A.M., 97.8, P.M., 100.

June 3d, marked improvement; weight 73½ lbs. Temperature, A.M., 98, P.M., 100.

June 10th, continued improvement; weight 75½ lbs. Temperature, A.M., 98.5, P.M., 99.

June 23d, temperature has been normal for a week.

July 8th, temperature has been normal since; now weighs 86 lbs.

September.—Physical examination shows only slight roughness on expiration.

Case 2.—Sarah W., aged 25, unmarried. First seen during miscarriage. Under these circumstances her real name was never learned. At this time she had a cough, and I advised her to try the treatment as soon as she was able.

May 30th.—She came to my office for her cough, she said. Upon examination evidence of collapse and slight perivesicular deposit were discovered at both apices. Temperature 99.5; pulse 100.

June 6th.—Considerable improvement. Temperature 99; pulse 100.

June 13th.—Great improvement. Temperature 98.4; pulse 80.

On examination I found a free respiratory murmur at both apices, no roughness nor jerking.

July 16th.—Is now entirely recovered. The treatment in this case was solution No. 1.

Case 3.—Miss J. S., aged 25, single. Present weight, 125 pounds. First seen with Dr. Robert H. Babcock, who furnishes the following history: "Patient was prostrated last May with what she supposed to be a severe bronchitis. The writer (Dr. Babcock) was called to see her, and after repeated careful examinations of the chest and an observation lasting several weeks, came to the definite conclusion that the case was one of incipient tuberculosis of the apex of the left lung. Under appropriate treatment she improved, and in June was able to be about. Desirous of trying the effect of pneumatic differentiation in her case, the writer persuaded her to take a course of treatment from Dr. Houghton."

Record as kept by Dr. Houghton:

June 4th, 1885.—First treatment, *no spray* at any time, .3 pressure, 16 respiration.

June 20th.—Fifth treatment, 3 inches expansion, .9 pressure, 11 respiration.

June 29th.—Ninth treatment, .8 pressure, 5 respiration.

July 3d.—Twelfth treatment, 4½ inches expansion, .8 pressure, weight 130 pounds.

July 27th.—Sixteenth and last treatment, 5 inches expansion, .8 pressure, weight 130 pounds.

Sept. 17th.—She was looking very well, and voice much stronger. Weight 136 pounds. Went with opera troupe as chorus singer.

"These treatments were continued at intervals of several weeks. The one result, established beyond doubt, was a better expansion of the chest. The anterior border of the left lung, which had been previously somewhat retracted and evinced, during percussion, but slight, if any, expansion upon forced inspiration, revealed in August last less retraction, and showed ampler excursion movement during inspiration. The writer was never able to satisfy himself that the pitch of the percussion note over the affected apex became any lower, or that the respiration revealed any other change than a disappearance of the jerkiness which had first characterized it in a circumscribed area. Whether the disappearance of her cough and expectoration was due to the treatments in the cabinet or to the improvement in her health from other causes, is a question. Subsequently, in September, her cough and expectoration returned." [Signed] ROBERT H. BABCOCK, M.D.

Taking all things into consideration, I am impelled to the following conclusions, *i. e.*, that

1. Pneumatic differentiation is of undoubted service in all conditions of primary infiltration.

2. Where the febrile movement has been unchecked for many weeks before treatment, improvement, if any, will show itself within the first ten or twelve applications; if there is no abatement of symptoms its continuance is of questionable utility, and it may be absolutely contra-indicated.

3. That phthisical disease at the apices is more favorably treated than when at the base of the lungs.

4. That it is possible by this means to more thoroughly medicate the lungs than by any other known method.

5. That the expansion of the lungs by differentiation is itself a therapeutic measure of great merit.

6. That peri- and inter-vesicular exudation is capable of cure by this method, and even third stage phthisis is benefited, at least temporarily.

My experience is that when the febrile movement is excessive, when the evidences of septicæmia are pronounced, it is not wise to use the pneumatic cabinet certainly until these symptoms have subsided. In cases of chronic bronchitis I have had so little experience that I can only say that if the proper remedy can be found its application is easy enough. Articles and authorities consulted on the subject of pulmonary capillary circulation as affected by the respiratory movements were

John C. Dalton, Human Physiology.
John W. Draper, Human Physiology.
A. L. Loomis, Practical Medicine.
Wm. Pepper, Third Volume System of Medicine.
Thomas H. Huxley, Physiology.
Dr. Cartwright, in the *Boston Medical and Surgical Journal*, 1852.
Miss E. Willard, Motive Power in the Circulation.
Dr. Alonzo Clark, Diseases of the Heart.
James R. Leaming, in Birmingham's Library.
M. Foster, M.D., Physiology.
Landois & Sterling, Physiology.

Central Music Hall, Chicago, October 20th, 1885.

ACUTE CATARRHAL PHTHITIS; RECOVERY.

BY P. C. JENSEN, M.D.,
OF CHICAGO.

On April 25, 1885, I was called to see H. B., æt. 14, who had been sick three weeks with catarrhal pneumonia, for which he had been treated by another physician, and a favorable prognosis had been given.

The persistency and continued aggravation of the symptoms changed his diagnosis to phthisis, and he now gave an unfavorable prognosis.

When I took charge of H. B., I found him greatly emaciated, with large and well-marked subclavicular depressions, and but little respiratory mobility. He was continually getting more debilitated from loss of appetite and exhausting night sweats. There was an almost continuous cough, a profuse purulent expectoration, offensive in character, containing much solid substance which would sink in water. In color it ranged from grayish white to greenish brown. The temperature reached 102° in the afternoon, but was subnormal in the morning. The respiration was short, hurried and superficial, about twenty-eight to thirty-two per minute. Pulse 120 to 140 per minute, volume small, and beat irregular.

Physical Examination.—On auscultation, bronchial râles were distinctly heard, due to exudate in the bronchial tubes. There was audible a hollow or cavernous sound, as if a small cavity existed in the right lung. There was decided bronchial respiration of right lung, and an almost complete absence of the normal vesicular respiratory murmur on the same side; while over the left side the lung sound was exaggerated (puerile respiration). The impulse of the heart apex could be distinctly felt on the right side, and was still more distinctly audible by the stethoscope, thus indicating a partial consolidation of lung structure on that side.

The medical treatment consisted of the following combination:

℞ Tr. Nucis Vomicæ..... gtt. x.
Tr. Digitalis..... gtt. vj.
Maltine..... ℥iij.
Syrupi Hypophosph. Comp..... ℥j.
M.
S. Take one-half hour before mealtime three times daily.

℞ Quiniæ Sulphatis..... gr. ij.
Pulv. Iodoformi..... gr. ij.
Ferri Sub-Carbonatis..... gr. ij.
Ext. Belladonna Alc..... gr. 1-5.
Podophyllin..... gr. 1-20.
M. et ft. Capsule No. i.
Sig. One capsule after each meal.

As the patient was in a wasting condition, and as malassimilation and denutrition only increased the exhaustion and debility, remedies whose action promotes nutrition and tonicity were indicated. To aid in this direction, one ounce of cod-liver oil was given by inunction three times a day. The parts selected for the application of the oil were the axillary spaces, groins, bends at elbow-joints and popliteal spaces. Preceding the inunction, the parts were rendered hyperæmic by friction with mustard, which facilitates absorption. To aid in checking the night sweats, and also for its soothing anodyne effect in relieving the irritability of the lungs produced by movement, a large belladonna plaster was applied over the chest. Belladonna plasters act indirectly, but very efficiently, in giving relief to cough and local pain by quieting the irritability upon which the cough depends. Improvement began immediately; the night sweats gradually subsided, the appetite increased, and in three days from the commencement of the iodoform treatment the sputa had lost its odor, and the quantity expectorated much diminished. The cough was relieved for a while by the remedies given, but was afterwards checked by the following mixture:

℞ Morphiæ Sulphatis..... gr. j.
Ant. et Pot. Tartratis..... gr. ij.
Ammonii Carbonatis..... ℥ss.
Acidi Hydrocyanici Dil..... gtt. xxv.
Spts. Chloroformi..... ℥iss.
Syr. Bals. Tolutani q s. fl..... ℥iv.
M.
S. Take one-half teaspoonful every three hours.

In about three weeks from commencement of my treatment, H. B. was sitting up convalescent, but seemed apparently at a stand-still. The respiratory murmur still partook of the bronchial character, and the temperature would not go below 99.5°, except in the morning, when it was always subnormal. Thinking that if we could clean out his lungs and free them from the accumulation of pathological exudates, he would soon recover, my attention was directed to the Pneumatic Cabinet. Dr. Houghton thought the case one which would be benefited by the Cabinet. He examined the patient in my presence, but could not then, nor could I detect any cavity at this time. But Dr. Houghton agreed with me in the diagnosis: first stage of acute phthisis, with intervesicular deposit.

The spray, which was used by inhalation in the Cabinet, consisted of one part corrosive sublimate and a small quantity of ammonium muriate to 500 parts of water. The improvement in the patient from that time on was astonishing. The patient states that the metallic taste peculiar to mercuric chloride spray was perceptible all day, and that the taste was distinctly imparted to the sputa. This seems to me fair evidence that the spray must have penetrated the minute ramifications of the bronchioles and air vesicles. This brings me up to Dr. Houghton's notes (see previous article, p. 509).

The anæsthetic effect of iodoform, and the peculiar symptoms of perverted sensation, muscular incoördination, diplopia, etc., are due to its action in part upon the nervous system. In regard to the internal use of iodoform, I would say that I have used it considerably, both in syphilitic, scrofulous and phthisical cases, but in the last two only when purulent or putrefactive changes are going on. In cases where there is much expectoration of an offensive character in various stages of decomposition, good results have been obtained by internal administration of iodoform. I believe it has a restraining influence over such pathological changes as ulceration, suppuration, necræmia, necrosis, tuberculosis, and retrograde metamorphosis in general. Iodoform, whenever administered internally, should be given with caution, as it is a powerful depressant to the circulatory and respiratory systems. In cases in which it has been given in large single doses, and occasionally in persons where small doses have been given for a considerable length of time, bad results have been observed. In the "National Dispensatory," 2d edition, page 782, we read as follows: "Several cases of poisoning by this preparation have been recorded. A woman affected with syphilis had taken in the course of four months about 42 grmm's (℥i ℥iij)

of iodoform in pills containing each one centigramme ($\frac{1}{6}$ gr). She was suddenly attacked with faintness, vertigo, and double vision; within two days she sank into a deep sleep which lasted for thirty-six hours, and was followed by excitement, violent headache, and confused speech. These symptoms were succeeded by debility and a tottering gait, after which the vertigo, headache and diplopia recurred. This series of symptoms lasted for a fortnight. In the case of another woman, the toxical phenomena occurred at the end of the first week, and when no more than 5 grammes (75 grs.) of iodoform had been taken. She slept continuously for five days, after which debility and vertigo were experienced for several weeks. (Oberlander)."

In my own experience, I have observed no such phenomena from the use of iodoform internally. But in every case in which I have employed it as an internal remedy, the combination with nux vomica, digitalis, and ext. belladonna overcomes or prevents its depressing influence upon the circulation and respiration; and as these remedies are cardiac and respiratory tonics, I think it a most rational method of obviating the dangerous effects sometimes resulting from the internal use of iodoform.

Chicago Opera House Building.

FRACTURE OF THE RIB CAUSED BY SNEEZING.

BY HAL. C. WYMAN, M.D.

SURGEON TO THE WEST END DISPENSARY, DETROIT, MICH.

There is a Hebrew legend which says that before the days of Jacob no man sneezed more than once—the effort cost him his life. Jacob invoked the blessing of God and survived an attack, and since his time it has been customary for persons, in the presence of one sneezing, to utter a "Praise God!" "Gesundheit!" or other significant exclamation, lest the phenomenon result fatally. That sneezing may not, in all cases, be the harmless action it is commonly believed to be, the following case will serve to illustrate:

Mr. M., aged 72 years, remarkably vigorous and healthy for his years, summoned me hastily for relief of severe pain in his right side, which had commenced suddenly after sneezing with unusual force. I found him standing, supported by a chair; his face pale, his breathing difficult and provoking cries, with pain in the lower part of the right side. I suspected pleuritis and neuralgia; and was surprised on placing my ear on his chest to hear distinctly the crepitus peculiar to fracture of bone. Further examination showed a fracture of the eighth rib, near its angle. The treatment consisted in placing three strips, fourteen inches in length, of Seabury & Johnson's rubber adhesive plaster obliquely over the right side, crossing the ribs at right angles. The plasters were adjusted with sufficient firmness to draw the ribs snugly together, and to limit the motion of the fractured one. Recovery was prompt and without complication.

This case is of interest, because it was unquestionably caused by sneezing, and the fact that sneezing is not usually referred to as a cause of fracture of the ribs. A glance at the mechanics of sneezing will show that two powerful sets of muscles may be brought into antagonism in a way to expend their opposed forces upon the ribs, making the fracture simply a mechanical matter.

The treatment by means of plasters having some permanency of adhesive power has proven in many cases of fractured ribs, as it did in this one, a great advantage over the old method of a broad bandage encircling the chest. It permits freedom of motion on the uninjured side of the chest, while it insures sufficient immobilization of the fractured bone to control pain and favor union.

It is said that insane persons are particularly prone to fracture of the ribs, and that sneezing among them is not infrequently the cause. Whether there is, in these cases, a dominant frailty of rib-structure, or an unusual quantity of muscular force called out by the mental unsoundness and applied to the ribs in the act of sneezing, is an interesting point to determine.

OPERATION FOR MALFORMED AURICLE.[1]

BY S. S. BISHOP, M.D.,

SURGEON TO THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY AND SOUTH SIDE FREE DISPENSARY.

On July 11th, 1885, Nettie H., eight years old, presented herself at my clinic at the Infirmary and said she "wanted her ears put back." Both auricles were so abnormally prominent as to mar materially the symmetry of a very shapely face and head. The left auricle, which was the more unsightly, projected one and one-fourth inches at a right angle from the junction of the auricle with the mastoid process, and then bent forwards; thus forming what is facetiously termed "lop-ear," or "dog-ear." The natural elevations and depressions were obliterated, and the organ presented the appearance of having been flattened by the pressure of the head in sleep on an auricle folded forward upon itself. The right ear projected one inch, but was not as imperfectly shaped as the left one. At first I contemplated moulding the auricle into shape in a dressing of plaster of Paris, which would retain the parts in position for several months, with proper care and renewed dressings. But on account of the youthfulness of the child, which would render it highly improbable that she would coöperate in that treatment with sufficient persistence to insure success, I performed an operation, with the consent of her parents, and with the assistance of Drs. Hawley, Abbott and Walker.

On July 17th the little patient was anæsthetized with ether. An incision one and three-fourths inches long was made on the posterior surface of the auricle about one-half inch from the free border of the cartilage, and parallel therewith. Another curvilinear incision internal to the first was made, to unite its extremities. These incisions extended only through the skin and subcutaneous tissue, and were made to embrace about one-half inch of integument at the widest divergence of the lines of incision. After dissecting off this skin and subcutaneous tissue, two incisions parallel to the first were made through

[1]Read before the Chicago Society of Ophthalmology and Otology, August 11, 1885.

the cartilage, and an elliptical section of this was dissected off from the skin covering the anterior aspect of the auricle, without wounding that integument. The portion of cartilage removed was not quite as wide or long as the section of skin taken from the posterior surface of the auricle. The edges of the wound were united by three sutures, which included the skin only, and the parts were dressed with absorbent cotton and net bandage.

Union by first intention occurred and the sutures were removed the fifth day. However, the patient chose a pleasure excursion in preference to the clinics before the wound had healed thoroughly; the dressing became displaced and the wound was torn open along the centre. Consequently this portion of the wound healed later by granulation. There was but slight pain or swelling, and the child evinced no dread of an operation on the other ear except with respect to the ether.

The result of the operation is that the auricle now projects but three-fourths of an inch instead of one and one-fourth inches, making a difference of one-half inch between the projection before and after the operation. Besides this, the natural elevations and depressions which are requisite to the beauty of a well formed ear have been restored.

I do not know that any surgeon has previously performed an operation identical with the one I have devised, but when a learned professor informs the French Academy of Sciences that before the illustrious Jenner was born, and "from a period so remote that it loses itself in the night of time," the inhabitants of Senegambia have practiced inoculation for the prevention of a contagious disease, I have not the temerity to call any operation new. A short time since I thought I had originated another new method of treatment, when to my surprise I learned that Dr. Sexton, of New York, had been experimenting in the same direction, although he had not published the fact. Drs. Ely and Roosa have operated in a different manner to effect a similar result. They transfixed the auricle at its junction with the side of the head, and removed the cartilage and the skin covering both the anterior and posterior surfaces.

By the operation which I performed it is apparent that the integument covering the anterior surface of the auricle, or the part most exposed to view, was not at all injured. I was not able to ascertain the exact results in Dr. Ely's case. In Dr. Roosa's case the projection before the operation was the same as in mine, but the projection in my case after the operation was one-eighth of an inch less than in his.

REMOVAL OF THE ENTIRE TIBIA.

BY B. F. HART, M.D.,
OF MARIETTA, O.

In December, 1883, I was called to see a boy, aged 13 years, who had been treated three weeks for rheumatism. On examination, I found the leg much swollen, very hot and painful, with marked fluctuation, the result of extensive periostitis. The boy was very anæmic, and much exhausted.

I opened the leg at its upper third, and anterior aspect, and discharged over a quart of pus and broken down tissue. A rubber band was applied, and a restorative course of treatment was given for four weeks, until the system could be restored sufficiently to permit the removal of the diseased bone. On January 30th, 1884, with the patient under influence of chloroform, I began an incision close to the knee, and finding no sound bone, continued the same to the ankle; and by the use of the enucleator, separated the tibia from its epiphysis.

The upper end having been loosened by disease, the entire bone was easily removed. With the raspatory I scraped the tibial side of the epiphysis at the knee. After dressing the wound with oakum for ten days, it was gradually drawn together by means of adhesive straps. In ten weeks the new bone had so far re-formed that he could bear his weight upon the limb. About four months elapsed before he was able to walk without the aid of crutches. At this date (October, 1885) recovery is perfect, tibia full size, and there is no halting in his walk.

MEDICAL PROGRESS.

ANATOMY AND PHYSIOLOGY.

WHAT BECOMES OF THE BILE IN THE ALIMENTARY CANAL.—Schiff admitted in 1870 that there was a circulation of the bile from the liver to the intestinal canal, and *vice versa*, as it seemed to him that the quantity of bile was always increased when bile was introduced into the canal. Sokoloff denied both the fact and the theory, for after injecting glychocolate of soda into the intestine of a dog, he could find none in the bile.

A. WEISS has recently repeated these experiments, and the results are published in the *Bulletin de la Société Impériale des Naturalistes de Moscou*, 1884. He made injections of glychocolate of soda into the intestinal canal of a dog for three days, killed the animal, and examined the contents of the gall-bladder for the glycocholate of soda. His results were contrary to those of Sokoloff. The presence of glychocolate of soda was established by the reaction with neutral acetate of lead, and by Hoppe's quantitative method, by which the quantity of cholalic acid and sulphur are determined. From the quantity of sulphur the taurine is found, and consequently the taurocholic acid. Weiss found a surplus of cholalic acid, which could only have come from the glychocolic acid introduced in the experiment, and which had passed into the bile. Had glychocolle been introduced instead of the glychocholate, the result would have been different: the bile would have contained taurocholates only. If cholalate of soda be introduced, it passes into the bile in small quantities, and glychocolic acid is found; by giving the cholalate only a small quantity is found. In the first case it is combined with the glycocoll; in the second glycocholates appear; cholalic acid, which is not found in the natural state, being really combined with

taurine and glycocoll in its passage through the liver. Finally, by giving a mixture of taurine and cholalate of soda he found 2 per cent. of glycocholate in the bile, which result supports the preceding theories.

Weiss then reviews Schiff's theory, as to whether fresh and decomposed bile (decomposed in the intestine) circulate continually from the intestine to the liver. The bile is partially decomposed in the intestine, and reconstituted (reorganized) again in the blood and liver, by the union of the taurine and glycocol with cholalic acid. He has found that the introduction of cholalic acid into the stomach increases the quantity of the coloring matters of the bile, while glycholic acid has no such effect.

MATERIA MEDICA AND THERAPEUTICS.

HYDRONAPHTHOL; A NEW ANTISEPTIC.—In an article on the antiseptic properties of this new substance, DR. GEORGE R. FOWLER, of New York, gives the following history:

Hydronaphthol belongs to the phenol series, and bears the same relation to naphthyl, the hypothetical compound radical of naphthalin, that carbolic acid does to the compound radical phenyl. Thus, carbolic acid was formerly regarded as the hydrated oxide of phenyl. Hydronaphthol, considered in the same way, would be a hydrated oxide of naphthyl. At the present time, however, these hypothetical compounds, phenyl and naphthyl, are considered as obsolete, and not capable of existing. In fact, carbolic acid is regarded as an oxide of benzol, or as a benzol in which one of the hydrogens is substituted by one hydroxyl (O H). Naphthol is obtained from the sodium naphtholate by decomposing it with hydrochloric or sulphuric acid; it is then purified by distillation.

Hydronaphthol is a derivative of the hydroxyl substitute of naphthalin, which latter of itself possesses antiseptic properties of sufficient value to have already excited notice and a desire to learn more of its compounds. The term "hydronaphthol," though perhaps not, strictly speaking, correct, yet conveys sufficiently well its character and relations to naphthalin, and at the same time is a convenient term for every-day use. It has been but recently discovered that it possesses antiseptic properties, and the claim is made that it is from ten to fifteen times more efficacious than carbolic acid. It is the most promising antiseptic of the phenol series, and, besides, possesses so many other advantages over substances now used for this purpose that it bids fair to supersede many of these. In surgical practice it will take the place, probably, of carbolic acid. Of the many new members of the phenol series which have been discovered since Calvert called attention to carbolic acid about thirty years ago, and which have been utilized in the industrial arts, some are better antiseptics than the latter. With but one or two exceptions, however, none have obtained any prominence as germicidal agents. Carbolic acid, though a fairly reliable antiseptic in strong solutions, when so used, involves some risk to life, from its corrosive action upon animal tissues and well-known poisonous properties. In weak solutions it is exceedingly unreliable, and its disagreeable odor often hides that of putrefaction, instead of preventing the occurrence of the latter. On the other hand, hydronaphthol is non-irritant, non-poisonous, and non-corrosive; and, although only soluble in water to the extent of one part in one thousand, in this proportion is antiseptic. It has no odor to disguise that of putrefaction, nor is it decomposed or rendered inert by the products of putrefactive decomposition—such as sulphureted hydrogen, ammonia, etc. It is far more stable than carbolic acid, not being volatile at ordinary temperature. Its vapor, when volatilized for purposes of fumigation, has no obnoxious effect upon the organs of respiration. It will not injure, either in substance, solution, or vapor, colors or textile fabrics. Its sparing solubility in water is rather an advantage than otherwise, as mistakes in making solutions can not occur. A saturated solution is about of the strength of one to one thousand, and in this proportion it will perfectly preserve for an indefinite time animal tissues and fluids, and yet upon living tissues this solution produces no perceptible effect other than the formation of a very slight albuminate film—this latter to be considered rather an advantage than otherwise, inasmuch as it constitutes an additional security against infectious germs floating in the air. If for no other reason than that it is non-corrosive, and hence will not injure the polished surface and keen edge of cutting instruments, it is to be preferred to mercuric bichloride, and to the latter it is second only in antiseptic qualities. It has a slight aromatic taste and odor, and crystallizes in scale-like clinorhomboid laminæ of a silvery white or grayish hue. Although but sparingly soluble in water, it dissolves freely in alcohol, ether, chloroform, glycerine, benzole, and the fixed oils. It is not volatile at ordinary temperature, but begins to sublime at about 90° C. With the alkalies and the alkaline earths it forms compounds which are unstable, are readily decomposed by carbonic acid, and of doubtful antiseptic value. It is easily powdered, and in this condition, triturated with carbonate of magnesia, silicates, such as fuller's earth, China clay, etc., in the proportion of two parts of the hydronaphthol to one hundred of either of the above named, can be dusted along the line of incision and over the mouths of drainage-tubes, in the latter application having an advantage over iodoform, now so commonly used for that purpose, in that it does not dry up the serum escaping from the wound cavity, and thus block up the exit extremity of the tube. Absorbent gauze, cotton, jute, wood-flour, sawdust, peat, moss, and paper-wool may be impregnated with it by immersing them in its alcoholic or benzole solution and then drying; the hydronaphthol crystals cling to these without the aid of stearin, paraffin, or resin, as in the case of carbolic acid. As it is not decomposed by the presence of organic matter, it possesses this advantage over corrosive sublimate in the preparation of surgical dressings. Its ten per cent. alcoholic solution perfectly sterilizes silk, and sufficiently hardens and preserves, as well as sterilizes, catgut.—*New York Medical Journal*, October 3, 1885.

MEDICINE.

PERIOSTITIS OF THE SPINE, WITH TETANIC SPASMS.—DR. WM. BUDD, of Exeter, reports the following case: R. M., a gentleman of active habits, had been affected for the last nine months with symptoms of periostitis. The spine and the bones of the pelvis were the parts chiefly affected. When he consulted me, there was much tenderness on the spinous processes of the third and fourth dorsal vertebræ, and also on the sternum. He had also suffered from severe pains in his limbs and trunk generally, which the least motion aggravated; coughing, sneezing, or laughing produced agonies of pain in the back and ribs. The pains were greater at night. A few days before applying to me, a new symptom came on. He became affected with sudden attacks of tetanic spasms, which fixed his limbs and extended his trunk, throwing his head back. It was a sudden shock, which relaxed again instantly. He found that the best way to avoid their recurrence was to lie on his back, and remain perfectly still. On inquiring into his past history, he told me he had had a sore on his penis seven years previously, accompanied by bubo, which was followed by nodes on the shin-bone. He experienced salivation from the treatment received at that time. Feeling sure that his symptoms were a manifestation of the syphilitic virus, I ordered him a mixture containing five grains of iodide of potassium, and five grains of Plummer's pill every night at bedtime. After taking these for a fortnight, he was greatly relieved in all his symptoms. The tetanic spasms had not returned since taking the medicine. A fortnight later he was entirely relieved from his symptoms, and had gained strength and flesh. The next time I saw him, he expressed himself as perfectly cured.—*British Med. Journ.*, Sept. 26, 1885.

SURGERY.

GANGRENE OF THE LUNG.—In a paper on the subject, read at the recent annual meeting of the British Medical Association, DR. SIDNEY COUPLAND says: Examining the *post mortem* records of the Middlesex Hospital for the ten years 1875-85 (*vide* Table), I find thirty-eight cases of pulmonary gangrene which passed on to the stage of excavation, in cases where a more or less extensive sloughing of lung-tissue had taken place, with the formation of one or more cavities. I have excluded lobular suppuration and bronchiectasis from the category, except where the latter has led to a gangrenous condition. Of these thirty-eight cases:

14	were associated	with	acute croupous pneumonia.
6	"	"	chronic pneumonia.
2	"	"	bronchiectasis and chronic pleurisy.
3	"	"	pulmonary embolism.
1	"	"	pulmonary thrombosis.[1]
4	"	"	cancer of the tongue.
3	"	"	cancer of the œsophagus.
2	"	"	cancer at the root of the lung.
1	"	"	thoracic aneurism.
1	"	"	cerebral hemiplegia.
1	"	"	suppurating bronchial glands and tuberculosis.

[1] Pulmonary thrombosis occurred in other cases, but in only one could it be considered as in any way causally related to the gangrene. In most cases, the thrombosis was clearly secondary.

The relationship between gangrene of the lung and acute lobar pneumonia has hardly as yet received satisfactory explanation. Laennec considered that the surrounding inflammatory change was purely secondary; and there is no doubt much truth in this view as regards many cases. But there yet remain a fair proportion where there seems no room for questioning the fact that acute pneumonia has terminated in gangrene. Of the fourteen cases mentioned as associated with acute pneumonia, not more than eight could fairly be considered as directly dependent on the latter. In the rest, the limitation of the pneumonic areas, distribution of the gangrenous foci, point to the hepatisation being secondary to the gangrene. At the same time, no adequate cause for the occurrence of the gangrene can be assigned.

That some cases of pneumonia occurring in debilitated subjects, or in those who are the victims of depraved nutrition, may eventuate in gangrene, cannot be denied. Thus, in six of these cases, there was an admitted history of alcoholic excess, three cases were complicated with granular kidney, and one occurred in a diabetic; but what is the precise determining factor of the gangrenous process in these cases, I am unable to say. One can, of course, assume that, in all these subjects, as in those where no underlying cachexia is present, there may be such an extension of the inflammatory process as to involve the nutrient vessels of the organ, presumably the bronchial arteries; but we have no actual demonstrations of this fact, and I cannot help suspecting that in most if not all such cases, there has been admitted into the lung some special irritant or septic material which has initiated the virulent type of gangrenous inflammation. The rarity with which gangrene occurs as a sequel of acute pneumonia, is well illustrated by the returns furnished last year to the Collective Investigation Committee of this Association. Out of the 1,065 cases so returned, gangrene resulted in only two, both being old subjects, and one a drunkard. In a certain number of cases, however, the connection between pneumonia and gangrene is more evident. I refer to those cases of lobar inflammation which, instead of resolving, pass into a condition of induration, where the pulmonary tissue becomes converted into a dense more or less vascularized tissue; or portions and tracts of the inflamed lobe may remain so consolidated.

He gives a table of twenty cases of gangrene of the lung associated with pneumonia. The seat of the gangrenous cavity or cavities was in the right upper lobe in no fewer than eleven cases; and there was no single instance of the left upper lobe being implicated. In three cases, the gangrene was in the right lower lobe. In two cases, gangrenous foci were found in both lungs; namely, in the right lower lobe and left upper lobe in one, and in the converse lobes in the other.

The condition of the overlying pleura is important, especially in view of the practicability of puncture in such cases. The pleural sac was obliterated by firm adhesions over the affected lobe in six of the cases associated with acute pneumonia, and in all those in which the pneumonia had become chronic. But in

one of the latter, the line of adhesion was not completely conterminous with the limits of the gangrenous cavity; and the puncture which was made in this case resulted in a pyo-pneumothorax. In four of the acute cases, there was more or less abundant lymph in the pleura covering the affected lobe; and in two there was empyema, apart from any perforation of the pleura. Lastly, in two cases there was very slight, or hardly any, concomitant pleurisy.

In another class of cases, gangrene of the lung can be traced more clearly to blocking of the pulmonary vessels; but it is noteworthy that such local arrest of the circulation does not necessarily lead to gangrene, although it may often be productive of that form of necrosis known as the hæmorrhage infarction. These infarcts, common in cardiac disease, do not, as a rule, break down by gangrenous softening, in spite of the access of air to their vicinity. The ultimate issue of pulmonary infarcts is mostly caseation and shrinking of the necrosed part.

When we have excluded from the list all those cases of pulmonary gangrene which may fairly be attributed to antecedent pneumonia, to thrombosis or septic embolism, we have by no means exhausted the whole etiological category; for, although we are practically reduced to cases where putrescent material gains direct entrance into the lung by inhalation, we find that this may be brought about under a great variety of circumstances. Indeed, I am not sure but that a closer scrutiny of many a case of so-called pneumonic gangrene may show it to be owing to the entrance into the lung by inhalation of putrefactive germs; and that, as I have before stated, there may be more truth than we are inclined to admit in Laennec's original view of the relation between the gangrenous focus and the concomitant pneumonia[1].

The putrefactive materials so inhaled may be found in (1) retained bronchial secretion, (2) morbid extrapulmonary products, and (3) foreign matter introduced from without.

After giving a history of the surgical treatment of pulmonary gangrene, he says: That pulmonary cavities may be laid open and drained, without, in many cases, incurring much risk, has been amply demonstrated of late years. Most of the operations have been of a palliative rather than a curative character, dealing with basic bronchiectatic cavities or phthisical vomicæ. Of such, I do not desire now to speak. The operation of tapping a chronic pulmonary cavity is simplified by the almost invariable circumstance of a thickened and adherent pleura; and if the physician can be sure of his diagnosis of the presence of a cavity, the surgeon has few difficulties to encounter in reaching it. It is, however, in cases of pulmonary gangrene that we should look for more permanent and satisfactory results of such operative interference, were it not that it is precisely in these cases that most difficulties are present. It is impossible to determine by the prevailing methods of physical examination the extent or depth of a gangrenous focus, or even whether it has reached the stage of excavation, that is of demarcation and detachment of the slough, or to be certain that one is dealing with a small circumscribed area of gangrene rather than a diffuse necrosis, limited only by the natural boundaries of the implicated lobe. Nor can we determine the very important question of the presence or absence of pleural adhesions. The case with which this paper opened bears out these discouraging reflections. In another case (No. 20) the diagnosis of the seat of a circumscribed gangrenous cavity was correct, but the introduction of the trocar was followed by pneumothorax. After death it was found that the artificial opening had been made into the lung just along the line where the pleural layers ceased to be adherent. Had the opening been half-an-inch higher, it would have escaped the pleural sac. The absence of adhesions is, *cæteris paribus*, more probable in the case of acute than in that of chronic gangrene; but the risk of inducing pyopneumothorax must be balanced against the almost inevitably fatal issue of the case if not treated surgically. Should the pleura be opened, the case would have to be dealt with as one of fœtid empyema, and measures be taken to drain the pleural sac. At the same time, in acute cases one would be guided rather by the general condition of the patient, before advising operation, knowing that recovery under expectant treatment sometimes occurs. When gangrene of the lung complicates malignant disease, or thoracic aneurism, it is futile to think of surgical measures. But in chronic cases, not so complicated, not only are pleural adhesions probably present, but the sloughing mass is likely to be circumscribed. It is in such cases, and especially in those where the gangrenous process has been set up by the presence of a foreign body in the bronchus, that one may look for the most satisfactory results; when indeed, a recourse to surgical interference appears to be not only justified, but to be the only rational line of treatment. At present the subject is too novel to allow any definite rules to be formulated; but enough facts have already been gathered to point to a line of successful treatment of one of the most distressing, and, hitherto, one of the most hopeless of diseases.—*British Medical Journal*, September 5, 1885.

[1] At the present time, when evidence is accumulating in favor of acute lobar pneumonia being due to the presence of a specific microbe (Friedländer's Pneumococcus) there is less ground for opposing the doctrine above stated. Nevertheless, I should not be prepared to admit that every case of pulmonary gangrene can be explained in this way.

HYPODERMIC INJECTION OF PILES.—DR. J. W. GIRARD, of Winchester, Tennessee, says: "If my experience with the use of the hypodermic syringe in hæmorrhoids be worth anything to the profession, I give it cheerfully. I have used it for about ten years, and have treated, I think, about 200 cases without a single failure, and in no case has the tumor returned thus far. My course of treatment is generally to take one part of tannic acid, two parts of carbolic acid, four parts of alcohol, and eight parts glycerine. I inject each pile separately, and, in a few days, they slough away, and generally heal kindly under dressings of carbolated cerate. If there be much constitutional disturbance, I generally control it with a steam-bath or a hot sitz-bath."—*British Medical Journal*, Sept. 5, 1885.

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PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, NOVEMBER 7, 1885.

PNEUMATIC DIFFERENTIATION.

The article by DR. HOUGHTON, which appears in this issue of the JOURNAL, is the fourth and last contribution upon the merits of the Cabinet known by the rather cumbrous name of "Pneumatic Differentiator." Dr. Herbert F. Williams, of Brooklyn, brought it to the notice of the profession at large by a report in the *New York Medical Record*, Jan. 17, 1885, of its trial in sixty-four cases of various pulmonary complaints. He subsequently discussed its action and limitations before the Climatological Society at its meeting in New York last Spring. A report of his paper, together with remarks upon it by Drs. Armour and Loomis, may be seen in the *New York Medical Journal* of Oct. 3, 1885. In the columns of the JOURNAL of Aug. 1, 1885, is an article by Dr. Vincent Bowditch, of Boston, wherein he reviews the subject of pneumatic therapeutics and cabinets and the Differentiator greatly to the advantage of the latter. Dr. Houghton's paper and an editorial comment in the JOURNAL of Feb. 14, current year, complete, we believe, the literature upon this subject up to the present time.

The Cabinet possesses decided merits as will be seen by the perusal of Dr. William's reports. In our comments last February we took the view that it is practically the same in its effects as the administration of compressed air, and from further reflection, as well as personal investigation of the cabinet, we see no reason to change our opinion. However, there is one respect in which the "Differentiator" is certainly superior to all portable air-condensing machines: This is the facility and thoroughness with which medicaments can be carried into the lungs. Were this the sole merit of the Cabinet, it would be of value, but since it promotes a better expansion of the chest in individuals of the superficial respiration, it thus constitutes a powerful means for the prophylaxis of tuberculosis. Yet this is not all; as shown by the report of cases by Drs. Williams and Houghton, the use of the Cabinet confers permanent benefit in non-tubercular catarrhal conditions of the bronchial mucous membranes, as well as in atelectasis and compression of the lungs. In pulmonary tuberculosis improvement generally results, while in a few cases, as reported by Dr. Williams, there seems reason to believe that the process has been arrested. It is thus seen that the Differentiator accomplishes all that has ever been claimed for compressed air. Indeed it is not unreasonable to predict that, owing to its superiority in the thoroughness with which atomized solutions may be carried into the lungs, even more brilliant achievements may characterize its employment. As in the inhalation of compressed air, not the least important of its benefits is its ability to check hæmoptysis, and herein, as well as in all other respects, the similarity of its action to that of compressed air is presumptive evidence that Pneumatic Differentiation is but a method of administering air under increased pressure, and a few moments' reflection will suffice to convince any one that such is the case. We may therefore with propriety apply to Pneumatic Differentiation Waldenburg's explanation of the effects of his apparatus.

He describes the effect of respiration upon the heart and arterial system as follows: In consequence of negative pressure within the lungs, the primary effect of inspiration is an aspirating one upon the veins of the body. Their contents are emptied into the right side of the heart, and this organ contracting with diminished vigor, throws but a small amount of blood into the aorta, and blood-pressure within that vessel sinks. As soon, however, as atmospheric pressure in and out of the lungs becomes equal, all suction force upon the veins ceases, until at the close of inspiration and during expiration, positive pressure is exerted upon the heart and aorta. The ventricles contract energetically, but receiving less blood they force less into the great vessels. Hence, during expiratory effort arterial tension is increased. When compressed air is inspired, its inrush is so sudden that an aspirating effect upon the veins is not exerted; the lungs quickly become distended, the veins of the neck grow turgid, and owing to the pressure exerted upon the heart and great vessels, arterial tension is increased, the same as in expiration. As this pressure persists during the ensuing expiratory effort, the effect

of compressed air is the same as, and prolongs that of expiration.

In consequence of the alveolar distension, caused by the inspiration of condensed air, the pulmonary capillaries are subjected to a degree of pressure which partially exsanguinates them. This anæmia of the lungs, which, according to Jaccoud, is likewise produced through the rarefied atmosphere of high elevations, directly favors the arrest of pulmonary hæmorrhage and engorgement; precisely the effect claimed by Drs. Williams and Houghton for their system of pneumatic therapeutics. But the beneficial influence of such a treatment is not merely local; there are constitutional effects which can be understood only by a knowledge of certain changes that take place in the arterial system. What Sommerbrodt says with reference to this, seems to us particularly satisfactory. An increase of the intrabronchial pressure, according to that observer, whether from coughing, loud talking, laughing, and the like, the Valsalvan method, or the inhalation of compressed air, stimulates the sensory nerves of the lungs; hence ensue, by a secondary reflex action, stimulation of the vaso-dilator nerves, lowering of arterial *tonus*, increase of the pulse rate and fall of blood pressure. At the same time also results a reflex lessening of the inhibitory influence of the vagus; the circulation is quickened and the secretion of urine is augmented. The teleological significance of all this is, that an increase of oxygen and nutrient material is supplied to the muscles concerned, and probably to the brain and nerve centres. In this reflex effect upon the systemic circulation to which much of the constitutional benefit of ærotherapeutics must be ascribed, lurks a danger which must not be overlooked. If the arterial coats be atheromatous, the dilatation of the vessels, which is meant to counteract the increased blood pressure, cannot take place sufficiently. Not only might rupture of an artery occur, but the strain thus imposed upon a weak heart might occasion its sudden failure. Owing to this and other dangers liable to follow its employment in the hands of ignorant or careless men, the Cabinet under discussion should be kept out of reach of charlatans, and we are glad to learn that measures to this end are adopted by the company controlling its manufacture. Only regular and reputable physicians are to be entrusted with the use of the Cabinet, at a yearly rental of $250, as the machines will not be sold. We should be pleased to see Pneumatic Differentiation become widely adopted for the treatment of pulmonary diseases, but fear the rental required for the apparatus will militate against its acquisition in more than exceptional instances. We understand that five Cabinets are already in use in Brooklyn, three in New York, one in Boston, one in Albany and one in Cincinnati. The recent improvements in its construction have made it easy of manipulation and efficient. We commend Dr. Houghton's Cabinet to the unprejudiced inspection of our readers who reside within easy access.

"A NEW AND RELIABLE SIGN OF PREGNANCY."

Contributions to our knowledge of the signs of pregnancy, especially those developed during the early months, are of peculiar interest and importance. Dr. Reinl, of Franzensbad, called attention in the *Prager medicinische Wochenschrift*, 1884, No. 26, to a new and reliable sign of pregnancy, observed and described by Professor Hegar. DR. P. COMPES, assistant physician in the Freiburg obstetrical and gynecological clinic, in a recent communication to the *Berliner klinische Wochenschrift*, 1885, No. 38, confirms the observations of Professor Hegar and Dr. Reinl.

This sign consists in softening and compressibility of the lower uterine segment, in marked contrast with the firmer and thicker tissues of the cervix. The softening and compressibility of the lower uterine segment are more pronounced in the median section than towards the borders. In order to elicit this sign at the earliest possible period, Dr. Compes recommends the combination of the rectal touch with abdominal palpation in the following manner:

The index finger of the left or right hand is introduced into the rectum, after the thumb is inserted into the vagina and placed upon the vaginal portion. The index finger, pursuing a backward direction, seeks to penetrate the aperture of the *sphincter ani tertius;* to do this, the sacro-uterine ligaments, marking the boundary between lower uterine segment and cervix, must be passed. When it is not easy to execute this manœuvre, as not infrequently is the case, since the aperture of the *sphincter ani tertius* may be concealed, placed to the right or left, or very narrow and situated posteriorly, one-quarter litre of lukewarm water may be allowed to run into the rectum. It will be an easy matter, now, to find the aperture. Then let the hand lying upon the abdomen, above the symphysis, press downwards and backwards in the direction of the index finger, moving in the rectum upwards and forwards. The index finger examines first the cervix and then the lower uterine segment. The manipulation may be rendered still easier by grasping the vaginal portion with a double tenaculum. It is not necessary to anæsthetize the patient.

The presence of this sign has been demonstrated as early as the end of the seventh week. Its diagnostic value is not definitely settled. Dr. Compes thinks it is a positive indication of pregnancy, since he has not observed its presence in a great variety of pathological conditions of the uterus, nor in the puerperal uterus. However, changes similar in kind, less in degree, have been noticed in isolated cases of retroversion of the uterus. Then the softening and compressibility of the lower uterine segment is not observed in every case of pregnancy. Further investigation is necessary to determine the exact significance of these changes.

Their origin is clearly explained by Bandl's researches into the anatomical boundaries of the *cervix uteri*. Bandl (*Archiv für Gynäkologie, Band. XV, Heft 2*), is convinced that the lower uterine segment is the *collum uteri*. The supravaginal portion of the cervix is much thinner than the *corpus uteri*. The changes in firmness and compressibility in the lower segment as observed by Hegar, Reinl and Compes, are due to the alterations about the internal os, when the cervical canal is beginning to be drawn up into the uterine cavity.

Dr. Rasch (*British Medical Journal, Vol. ii, 1873*) describes a sign of pregnancy,—the detection of fluctuation through the anterior uterine wall, depending upon the presence of liquor amnii,—which is not identical with the phenomena noticed by Hegar. Uterine fluctuation may be detected as early as the end of the eighth week.

PROFESSOR MATTHEW HAY.

We learn that PROFESSOR MATTHEW HAY, of Edinburgh, has been elected Professor of Pharmacology in the Medical Department of Johns Hopkins University. Though we have no intimation that he has accepted, or that he will accept, we are sure that those who desire to see a higher medical education in this country, and especially those who can appreciate the benefits of a correct and thorough teaching of Pharmacology, sincerely hope that Prof. Hay will consent to come to America, to teach in what promises to be one of the most thorough medical schools in the world.

Professor Hay is yet a young man, but he has earned, by hard and thorough work, a very enviable reputation as a pharmacologist and teacher. We can but think that his coming to America would be greatly to his advantage. The field for pharmacological work in this country is vast, and his acceptance of the position offered him would in all probability awaken an interest in the subject, that has thus far been unfortunately almost foreign to America. His work has been no small factor in creating the demand for better pharmacological work in Great Britain; a demand that has recently been manifested by the establishment of a Section of Pharmacology in the British Medical Association. Much as has been and will be said against "Specialism," it must be admitted that this important branch—or study must be taught by a "Specialist." Good work in pharmacology must be done by one who has a special training and a special aptitude for the work; and further, he must be a chemist and appreciate the value of physiological pathology. More attention to pharmacology, therefore, means more attention to and better work in medical and physiological chemistry and physiological pathology. It may be said that America offers better advantages now to the pharmacologist and physiologist than does England, since the anti-vivisection element here is not so strong—nor is it likely to become so powerful and rabid. The most that that element can hope for in this country is a restrictive law which will be entirely satisfactory to the physiologists, and to which they will give their full consent.

SMALL-POX AND VACCINATION.

Perhaps nothing has occurred in recent times, better calculated to impress the minds of both the profession and the people with the inestimable value of vaccination as a reliable preventive of small-pox, than the unusual prevalence of the latter disease in the city of Montreal. Having a considerable percentage of her population not only unvaccinated, but by prejudice and want of knowledge stubbornly opposed to being vaccinated, the result has been that the small-pox, once introduced among them, has already destroyed several hundred lives, interfered with business to the extent of millions of dollars, and is said to have added at least half a million to the city's debt. And yet these are only a part of the evils produced; for the protracted and extensive ravages of the disease in that city has endangered the carrying of the contagion in persons and clothing into all other parts of Canada, and into all the States adjacent thereto. Indeed, it has been carried into, and manifested the disease, in several places within our States already, and had the people generally been as negligent of, or as prejudiced against, the practice of vaccination, as a part of the citizens of Montreal, the small-pox would now be prevailing in all its loathsome destructiveness in a dozen States of our Union. But by the vigilance of the State and Local Boards of Health in New England, New York, Michi-

gan, Wisconsin and other States, the disease has thus far been restricted to the parties bringing it within our borders; and there is a strong probability that it will remain thus restricted. Yet it is the duty of every citizen to see that not only himself, but his family and his employés are as well protected as vaccination can make them.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, October 1st, 1885.

THE PRESIDENT, B. F. BAER, M.D., IN THE CHAIR.

DR. WHARTON SINKER read a paper on

THE DIFFERENT FORMS OF PARALYSIS MET WITH IN YOUNG CHILDREN.

The most frequently met form is infantile spinal paralysis, or *polio-myelitis anterior*. This term indicates the pathology of the disease, which is an inflammation of the nerve cells of the anterior horns of white matter of the spinal cord. This affection may come on at any period of life, but is generally seen in children and usually at the age of two years.

The children are generally strong and apparently healthy, and the paralysis is sudden in its onset. Fully two-thirds of the cases I have seen have been attacked in the summer months, hot weather and teething seeming to be predisposing agents. Dr. Barton, of Manchester, England, reports that of fifty-three cases in which he noted the time of onset, twenty-seven occurred in July and August. The attack is preceded by fever of greater or less intensity, with pain in the head and limbs, with general soreness when moved or lifted. After a few days, paralysis more or less complete occurs, but in a few days a regression of the paralysis from some of the affected parts occurs. Sensation is undisturbed. Atrophy of the muscles is soon apparent; in fact, the paralyzed portion stops growing for a time. The temperature of the affected portion is low and the skin is blue and mottled, but there is no tendency to ulceration, and wounds or scratches heal readily. The skin and tendon reflexes are lowered or abolished in the affected limbs. At first response to the farradic current produces but little muscular contraction, except when a powerful current is used. When atrophy has set in the reaction of degeneration is seen. Most cases of club-foot are the result of infantile palsy. Deformities of the upper extremities are rare; this disease differing in this respect from cerebral palsies. The exact causes of infantile palsy are unknown. Over-fatigue often precedes an attack; sudden chilling is considered by Seguin to be a frequent cause.

The *prognosis* as to perfect recovery is only moderately good. In many cases the most faithful treatment fails to restore the paralyzed muscles, but in almost every case we can expect more or less improvement.

In the early stages of the paralysis, after the subsidence of the fever, the treatment should consist of mild stimulation to the spine; ergot, and small doses of bromide of potassium should be given internally. Later in the disease, iodide of potassium should be given instead of the bromide. When the palsy is established, electricity and massage are the means to be depended upon. They must be persisted in for months or even for years. Internal treatment is of little or no value unless there is some failure in the general health of the child.

Spasmodic paralysis as seen in children is of two varieties. When of primary spinal origin, or when there is a descending degeneration of the cord from a primary cerebral lesion, there sometimes seems to be a congenital defect in the motor tracts of both brain and cord. In the spinal variety there is often seen, soon after birth, rigidity of the limbs; at first this is only occasional, but as the child gets older, every effort to move a limb causes muscular rigidity in it. The child does not attempt to walk until three or four years of age. Then when it is supported under the arms and it tries to stand or to walk, the movements are very peculiar and characteristic. The feet are extended and inverted so that the child rests on the toes. The knees are strongly adducted and lock together so that the legs become entangled. By degrees the child becomes able to walk with the aid of apparatus or some form of crutch. The hands and arms are often affected, and every effort causes muscular rigidity to come on. The mind is unaffected in these cases, and the speech may be distinct, although it is often very defective. Sensation is unimpaired, and the patella reflex and ankle clonus are exaggerated. There is no wasting of the muscles. By these symptoms we infer that the disease is localized in the lateral columns; but exactly what is the nature of the lesion we do not know, for no post-mortem examinations have been made in these cases. The cause is unknown. Hamilton found three of seven cases which he had collected were premature births. Adherent and contracted prepuce has been thought by some to be caused by reflex influence of the spasmodic paralysis, but operation has not given relief. The treatment should consist of massage, galvanism to the spine, ergot, and cod liver oil. Fluid extract of conium may be given to allay spasm. In severe cases great improvement follows this treatment.

Even when we can do no positive good to the limbs, very much can be effected by the aid of apparatus. Properly adjusted braces to the legs will enable a child to walk on crutches or on a Durrach wheel crutch.

There is a form of spasmodic spinal paralysis in which the child is imbecile. In these cases there has probably been congenital defect in cerebral development. The head is small and there is no evidence of intellect; often nystagmus is present.

Paralysis from Pott's Disease.—Paralysis of the lower extremities may result from caries of the spine. The lesion may be either a meningitis or a myelitis; if meningitis alone, there is considerable pain and contraction of the legs. Generally there is a trans-

verse myelitis. The symptoms are numbness and pricking of the legs, with loss of sensation; gradually increasing loss of power, with wasting of the muscles; incontinence of fæces with retention or incontinence of urine. Sometimes there are ulcers over the sacrum or on the limbs.

The indications for treatment are evident. An apparatus which will take the weight of the body from the spine is necessary and is sometimes sufficient of itself. Frequently, however, the application of the actual cautery over the spine brings improvement in the symptoms when an apparatus has done no good. Massage and electricity should be used to restore the atrophied muscles.

Paralysis from Rachitis and Diphtheria is seldom complete. The former is often spoken of as the the pseudo-palsy of rickets. Negro children, who are very subject to richitis in cities, often have rachitic paralysis. The child at three or four years is unable to walk or stand. Sometimes it has not sufficient muscular development to sit upright. It can move every limb and has no loss of sensation, but has no power. Cod liver oil and massage bring about the most satisfactory results in these cases. *Diphtheritic paralysis* usually begins in the muscles of the soft palate and pharynx and extends to the extremities. It is generally bilateral and incomplete, but I have seen a case in which it was hemiplegic. It is considered peripheral in character, and is believed by some to be connected with the altered condition of the blood consequent on the original attack. Diphtheritic paralysis is rarely fatal, and lasts in most cases only a few weeks, although it may continue for months. Strychnia and electricity are the means to be employed, and the case usually responds promptly to these remedies.

Pseudo-hypertrophic Paralysis is a rare affection, but is of much interest. The disease belongs almost exclusively to infancy. It is characterized by muscular paralysis with great increase in the bulk of the muscles. This enlargement is due to fatty deposit, while the muscular tissue proper is atrophied. The affection begins with weakness of the legs, a peculiar balancing of the trunk and separation of the legs in walking. The shoulders are thrown far back in standing and walking. There is great difficulty in getting from the sitting to a standing position. Later in the disease the muscles become wasted and shrunken, and the general health begins to suffer. Death results from implication of the respiratory muscles. The skin is mottled like a piece of castile soap. The tendon reflexes are abolished and electro-muscular contractility is impaired. There is often a greater or less amount of mental weakness. There is no loss of power over the bladder and rectum, and sensation is not affected. Heredity influences the disease, which is slow in its progress, but the course is steadily downward.

Freidrich's Disease is still more rare than the preceding. It is practically locomotor ataxia in childhood. There is evidenced here also a hereditary predisposition, and the female children seem most liable.

Cerebral Palsies.—Hemiplegia may result from some injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. A child may be born hemiplegic after a perfectly natural and easy labor. Under these circumstances we must regard the paralysis as the result of imperfect cerebral development. Hemiplegia, under these circumstances is generally permanent. The side affected grows less rapidly than the other. The flexors of the arm and hand are usually contracted. The leg becomes rigid in the act of walking. Convulsion is almost always associated with cerebral paralysis, either immediately preceding the attack or occurring soon after. The convulsive movements are most violent on the side which is subsequently paralyzed. The child will have an idiotic expression and speak indistinctly, but their friends think them intelligent. The convulsions are liable to return when the child is older, and then assume and epileptic form. The walk is peculiar and is called the spastic gait; the patient plods along looking as if he were about to pitch forward. The affected limbs are smaller and shorter, the growth of both bone and muscle being affected. In the choreic variety, where the arm is in constant motion, the muscles may become hypertrophied but the bone remains short.

Prognosis.—As a rule the prospect of recovery is bad; even if the patient gets well the hemiplegic side remains awkward.

Treatment.—Cod liver oil, and massage, which always relaxes the contracted muscles. The affected limbs should be used by the patient as much as possible.

Dr. R. P. Harris inquired if Dr. Sinkler had ever observed any hereditary predisposition to convulsions and paralysis.

Dr. Sinkler replied that the hereditary influence was decided even when no convulsions occurred.

Dr. E. E. Montgomery reported a case

OF OÖPHORECTOMY.

Mrs. L., of Columbia, Pa., æt. 36 years, married ten years, pregnant five times, the last four years ago, was brought to my office by Dr. H. T. Chase. Her health has been bad since her last confinement. First menstruation at twelve and a half years, regular and very free for one and a half years, when she fell, producing pelvic distress, after which for seven years the flow was very scanty, lasting but one or two days and accompanied by excruciating pain. She improved somewhat after marriage. Her first conception was followed by so much nausea, vomiting and anæmia that her physician advised and induced an abortion. She is now regular as to time, but irregular as to quantity; it is preceded by an excruciating pain for two days, which continues until the flow disappears; she also has severe pain in the head. She is very nervous at all times, but this is much intensified during the period. Pain is more marked in the left inguinal region and down the corresponding limb. Coition and vaginal examination are very painful. The uterus is enlarged and painful, tender on pressure over both ovaries. Local uterine treatment had been kept up during the entire four years without

relief. Trachelorrhaphy had been performed. Ovariotomy was advised.

Sept. 19, 1885, she entered my private hospital, and, assisted by Drs. W. H. and C. B. Warder and E. Eshleman, the uterine appendages were removed. The left ovary was composed of a number of cysts, the largest of which ruptured while adhesions were being separated. The right ovary was not enlarged, but it was removed to ensure relief. The wound was closed with silk-gut and dressed with sublimated gauze and absorbent cotton. There was no shock. The highest temperature reached was 101.6° at midnight of the 20th, and it was normal on the 22d. Sutures were removed on the eighth day, and the wound re-dressed for the first time. It had united throughout, and there was no irritation from the sutures. The effect upon her general health remains to be determined.

DR. MONTGOMERY also reported a case of

SUPRA-VAGINAL REMOVAL OF THE UTERUS AND BOTH OVARIES FOR FIBROID TUMOR.

Ann H., æt. 27, was brought to me by Dr. T. H. Boysen, of Egg Harbor City, with the following history: Her menses from the beginning occurred every three weeks and were free an entire week. During the last four years they have occurred every two weeks, and are attended with pain in the pelvis and down the limbs and severe pressure upon the bladder, causing frequent urination and sometimes necessitating the use of the catheter. Dr. Boysen had diagnosticated fibroid tumor, which my subsequent examination confirmed. The tumor was the size of a child's head, filling up the pelvis and apparently arising from the anterior wall. The examination led me to believe that the bladder was adherent over the anterior surface and would render the removal of the tumor unsafe. I suggested the removal of the ovaries.

She entered my private hospital Sept. 9, 1885, for that purpose. Drs. W. H. Warder, Boysen and Martin assisted, Drs. C. B. Warder and Staltweather present. An incision three inches long was made, and finding the tumor free from the bladder, with cervix sufficiently long to serve for a pedicle, the incision was extended to within an inch of the umbilicus above and symphysis below, and the tumor with some difficulty withdrawn. In the absence of a Tait's clamp which had been ordered some days before, the pedicle was constricted by a wire-ecraseur and the tumor with the ovaries was removed. The pedicle was then transfixed with two steel pins and tied in three sections with strong silk thread. The peritoneum was fastened to the pedicle below the ligatures, and the wound closed with silk-gut sutures, the pins holding the stump outside. The wound was dressed with sublimated gauze and absorbent cotton. The operation was followed by some shock, temp. 97.4, pulse 104, from which she soon rallied. She complained greatly of pain. A half-grain of morphia had been given by suppository, and three hypodermic injections of morphia, one-fourth grain each, were given during the afternoon before the pain was relieved.

At 3 A. M. of the 24th I was called by the nurse, who reported bleeding from the stump. Three ounces of blood had been lost. By aid of Dr. Warder, a Wells clamp was applied below the pins, apparently controlling the hæmorrhage; but it recurred later in the day from the angles and from beneath the clamp. By this time the Tait's clamp had arrived, and the patient was etherized, the three lower sutures removed, the pedicle drawn up, the clamp applied so as to control it completely, and the wound again closed. The wound had united throughout. Temperature reached 100.6 at 9:30 P. M. The highest subsequently, 101.6, was in the afternoon of the 25th, and it became normal on the 28th. Upon removing the dressings, on the 27th, some pus welled up about the pedicle. As the skin was irritated, the dead pedicle was cut away until the clamp slipped off. There resulted, of course, considerable retraction of the stump, but the sloughed tissue is now nearly cleared away. The patient suffers no pain or discomfort, temperature normal. The tumor was situated in the anterior wall and fundus of the uterus, and projected into the uterine cavity,

DR. PARISH remarked that removal of the ovaries had given such good results in cases of uterine fibroids, and was comparatively so free from danger, that he would like to hear from Dr. Montgomery his reason for his choice of operation.

DR. Montgomery replied that the tumor filled the pelvis and pressed upon the bladder and rectum, causing great and constant distress. As diminution of the size of the fibroid tumor is not a certain result of oöphorectomy; and as all the circumstances were in favor of the major operation, he decided upon it as the best one.

THE AMERICAN ACADEMY OF MEDICINE.

Ninth Annual Session, held in New York City, October 28 and 29.

The meeting was called to order by the PRESIDENT, ALBERT H. GIHON, M.D., of Washington.

The following were

ELECTED FELLOWS OF THE ACADEMY:

Drs. S. M. Nelson, Cambridge, Mass.; J. H. W. Chestnut, Phila.; Rufus W. Bishop, Chicago.; E. E. Mariott, Springfield, Mass.; George N. Acker, Washington, D. C.; H. V. Logan, Scranton, Pa.; H. W. Elmer, Bridgton, N. J.; H. F. Hansell, Phila.; E. W. Cushing. Boston, Mass.; J. S. Wight, Brooklyn, L. I.; William Osgood, North Yarmouth, Me.; C. A. Packard, Bath, Me.; W. K. Oake, Aubern, Me.; A. Mitchel, Brunswick, Me.; D. A. Robinson, Bangor, Me., C. A. Ring, Portland, Me.; J. A. Spaulding, Portland, Me.; G. W. Marshall, Milford, Del.; Wm. A. Hugie, Charleston, S. C.; J. B. Shapley, St Louis, Mo.; M. H. Post, St. Louis, Mo.; C. E. Briggs, St. Louis, Mo.; J. S. Alleymen, St. Louis, Mo.; N. S. Davis, Jr., Chicago., Ill., and Charles Edgar Cook, Illinois. Dr. Henry H. Smith and Dr. S. Weir Mitchell, of Philadelphia, were elected to honorary membership.

Dr. Robert L. Sibbett, of Carlisle, Pa., read a paper on

THE STUDY OF MEDICINE AS A MEANS OF EDUCATION.

He first referred to the various elements in education, considering time the most important of these. The medical colleges of the United States are, he thought, institutions not to be proud of. In this country 219 medical colleges have been chartered at one time and another. Of this number 147 were regular. Ninety-three of these colleges have become extinct. Of this number fifty-seven were regular. Contrasting this with the situation in Canada, it is found that there only fifteen medical colleges have been chartered, and of this number twelve remain, all of which are regular. At the present time there are eighty-seven colleges in this country teaching rational medicine, and twenty-nine teaching sectarian medicine of various kinds. The practitioners of rational medicine have no need to come in contact with the practitioners of sectarian medicine in any way. In boards of health and State examining boards it is not necessary to have any association with them. Taking up the subject of medical teaching, preliminary examination with graded courses and frequent examinations were heartily recommended. Now a person may graduate as a Doctor of Medicine, without having even a rudimentary knowledge of grammar and arithmetic. The medical colleges must take the responsibility for such graduation. A protracted course of academic training is necessary for a proper study of medicine.

He concluded by saying that a State Medical Examining Board with full authority to examine all practitioners, irrespective of the degrees they may hold, would do more to elevate the profession, than all other means combined.

Dr. C. McIntire, of Easton, Pa., read a paper on

MEDICAL SUPERVISION IN STUDENT LIFE.

This paper assumed that the times had changed; that modern life made a greater demand upon the time and energies of the individual to the detriment of his health and development. It was considered impossible to diminish tasks and give more time to rest and recreation. There is no way known to shorten the period of rest, so something should be done for recreation. The plan suggested was the usual one given by students on these subjects. A careful physical examination at the beginning of school life, and a series of graded bodily exercise under medical supervision throughout school life was recommended. Many appear to be ignorant of the end to be obtained by a modern gymnasium; so that in colleges the parents of the pupils were afraid that their children would be injured. But as the weaklings are the subject of especial care and direction, they are the ones least apt to be harmed and most likely to be improved. The end aimed at is to give such tasks as will tend to strengthen the weaker parts.

Dr. Henry O. Marcy, of Boston, read a paper on

THE CLIMATIC TREATMENT OF DISEASE, WITH AN ILLUSTRATION OF WESTERN NORTH CAROLINA AS A HEALTH RESORT.

The fundamental factors of the zymotic diseases were first reviewed from our present knowledge of the rôle of the bacteria, and the question of the wise adaptability of the individual to his surroundings was considered as the best definition of climate. A *résumé* of the latest investigations of climatologists was given with reference to, and the results obtained by, the mountain health resorts of Europe and America. The deductions of the writer were that good must be looked for in the benefit to be obtained to the individual in the improvement of his resisting vital powers and invigoration of his cellular tissue regeneration, rather than in his escape from his bacterial enemies. The larger portion of the paper was devoted to the consideration of this new and important phase of the question of climate.

The higher Alleghanies in Western North Carolina were described at considerable length as offering mountain health resorts of a character well suited to a variety of diseases. The deductions were based on a long tour of personal investigation made during the last summer as a sanitary study.

Evening Session.

The President, Dr. Albert L. Gihon, read his *Annual Address*, entitled

WHAT IS MEDICINE?

He said that the place of the Academy was not to be sought among the pathological, clinical, sanitary, and other national associations. It antagonizes none of these, but seeks to cement all into a compact unity. Referring to the slow growth of the Academy, it was stated that one of the reasons was to be found in the fundamental condition of membership, restricting fellowship to graduates in medicine who have received degrees in letters by course. As the coöperation of every educated man interested in the objects of the Academy is desirable, he was of the opinion that the time had come when every limitation to fellowship should be removed except the solitary requirement that the candidate shall be in fact, as in title, "learned in medicine," and in all else that this term implies, but he would make it impossible for any one unfit or unworthy to enter, though he may come with an armful of diplomas, have subscribed to the most inflexible of codes, and no matter what faculty, society or institution he may be delegated to represent. The nominations should be accompanied with the fullest record evidence, and be made long enough in advance, from six to twelve months, to enable the council to determine each man's fitness.

A second reason why the Academy had not met with more pronounced sympathy and support, is its necessarily hostile attitude to institutions and individuals who defy the principles of its constitution.

The Academy encounters a third obstacle in the lukewarmness of its *quasi* friends; some damning it with faint praise, others exuberant in private but chary of public endorsement. Reference was made to the case of a medical editor, who could not follow his wish in this respect on account of policy. The editorial columns of the medical press were preeminently high-toned, but the publishers were inconsistent in permitting under the same cover advertise-

ments of medical concerns, drug factories, and proprietary clap-trap. Why should the business venture of men who get up sham colleges be advertised in reputable journals? The *New York Medical Record* commends the recent action of the Florida Medical Association in resolving against the advisability of establishing a medical college in that State. These are encouraging signs, offsetting the fact that thirty-nine of the eighty-seven regular schools in the United States are only fifteen years old, and twenty-one not over five years. Reference was made to the fact that trashy communications of illiterate men were published simply because they were subscribers. The journals only reflect sentiment. Let us ask ourselves the question, "What is Medicine?"

If we look to this Academy for the answer, we shall find that it is the most profound and ennobling study which can engage the intellect of man. This is not the popular idea, which is that medicine is only something in a box, or bottle, that is prescribed by a man or woman who has acquired more or less skill in administering the particular remedy appropriate for each disease. Like other professions whose offices are called for by the disagreeable incidents of humanity, it is only tolerated as a necessity. Sham aristocrats look down upon it; others hire its members as they do their cook or cabman. In military and naval services they are sought to be degraded. The ministry of the suffering and afflicted is nowhere regarded as an outcome of the study of the stupendous and sublime mysteries of existence. In the national councils, in military and naval organizations, in civic administrations, who thinks of giving a first place to a physician, although his are the mental attainments which fit him best for counsel in all that concerns the welfare and progress of the human race. The science of medicine involves the knowledge of everything that relates, however remotely, to the existence of man; his place in nature, his origin, growth and development, preservation and continuance. The prevention and cure of those abnormal conditions which tend to his destruction, are but one chapter in the volume, which, coming near the end, can not be read understandingly without the thorough comprehension and diligent study of all that precedes. Medicine is so far-reaching in its sources and so connected with every other branch of knowledge, that he who would begin its study must first have drunk deep of the well-spring of human knowledge. Medicine is a science of such proportions that only a well-educated mind can master it. Is this the view entertained by the profession at large? What are the facts?

Let us see how the profession is recruited. Ordinarily a youth becomes a doctor, as it were, from a whim, and there are others, no longer young, and having failed in other occupations, they hope to make money by this, knowing nothing of its responsibilities and requirements, without aptitude, ignorant, illiterate, etc. Such a one goes to a college, and as a first course student listens to lectures on anatomy, practice, chemistry, surgery, etc., one after the other, without understanding a word of the technical language. Seventy-nine colleges require evidence of preliminary education. In most this is only specious. Recent instances of illiteracy on the part of graduates are the following: "Colume of murcury," "cours at Beleview," "anylitic," "assend," "admition," "diameter of the earth ninty-two thousand miles," "the field of the cloth of gold, some kind of tapestry," "an alterative acts like food on building up system, and are favored in their action by stomachic, or anything which arouses the system to action." Could the man who after graduation says "was began," and spells "gravatation, femeral, superating, corpusels," etc., have ever comprehended the language used by the teachers? Why should medicine be cheapened to every purchaser and the college debase its teaching to their limited understanding. A collection of theses presented to American medical colleges during the last five years would be more entertaining than "English as she is spoke." Only the utter ignorance of elementary chemical principles on the part of the men who study medicine, has made chemistry one of the seven chairs. It belongs to an academic course. What only can medicine be to the ignorant numbers who are annually mustered into the ranks of the profession? To these men, it can have no other aspect than that of a trade. Many enter upon it as a money-making vocation. It was taught them as a source of pecuniary profit, and they practice it for the fees they get. Manifestly, then, medicine is not the same to all men, even medical men. If improper men can be excluded from national services, why not from State, county and city medical societies? This should be done for the protection of the community. Where a drug clerk kills one victim by his carelessness, he saves a hundred by recognizing errors in physicians' prescriptions. (Examples from apothecaries' files were given.)

The debasement of medical education to the capacity of the ordinary purchaser of a diploma, will eventually cause the profession to deserve the reproaches of its friends. The public gauge the profession by the men with whom they most frequently come in contact. The wise physician does not hesitate to say "I do not know." The typical doctor affects an omniscience in adverse ratio to his knowledge. Until the mystery of the first departure from health is made clear, all our therapeutics must be empirical, and fundamental methods of cure be speculative. If we have not learned where disease begins, we have at least learned that the follies and weaknesses of men have in their wake a multitude of ills, and these we can prevent, and the wise physician, learned in all that pertains to the normal life of the body, aims to protect it from these evil influences, which his experience has taught him will do it harm.

Preventive medicine has at last attained recognition as the highest aim of the physician's art. It establishes new relations of the physician to the social system. It is not creditable to the intelligence of the age that in the department controlling internal affairs, among bureaus of labor, statistics, agriculture, education and so on, there is no bureau of public health. Preventive medicine has more to do than warding off epidemic visitations of great scourges. Its most im-

portant duty is to consider the impairment of health of growing children through the sanitary defects of our school system, the prevention of insanity, the repression of crime. It is too much to expect antidotes for every microscopic germ. The tiny swarms around us are at once our friends and foes. If we do not antagonize them, they purify the air we breathe, the water we drink, the dirt we tread, and prey upon our natural waste: it is only our own folly that causes them to turn and rend us. We are too prone to hasty generalizations. We inconsistently denounce the doctrinaires, who affect to believe in the panegyric virtue of similars, and ourselves find cure-alls in quinia, cocaine, germicides, etc. Hence the greater need of impressing upon the tyro in medicine the fact that there are underlying principles never to be lost sight of. The chair of Institutes of Medicine has gradually been supplanted by that of Principles and Practice. If he were to banish chemistry and physics from medical colleges, he would establish a chair of the Philosophy of Medicine, to include the history of medicine, medical literature, medical jurisprudence and medical ethics.

Reform has been hampered by adherence to existing methods. It will not do merely to establish adjunct chairs. The starting-point must be the requirement of a thorough preliminary education. Four annual terms are necessary. Descriptive anatomy and materia medica are enough for the first year. Histology and practical microscopy, physiology in all its relations, and the mechanical processes of pharmacy should occupy the second year. Hygiene, general pathology and general therapeutics for the third year. Special pathology, special therapeutics, the philosophy of medicine, medical history, jurisprudence and ethics for the fourth year. A fifth year may with advantage be devoted to clinical experience under supervision. Medicine has no need to rear its superstructure on any other foundation than the broad basis of fact.

(*To be concluded.*)

STATE MEDICINE.

THE MEDICAL BILL AS CONSTRUED BY THE ATTORNEY-GENERAL OF INDIANA.

The Right to Engage in the Practice of Medicine Subject to Such Restrictions as the Legislature may Reasonably Impose.

In answer to questions submitted by Dr. Metcalf, Secretary of the State Board of Health, of Indiana, the Attorney General has given the following elaborate opinion:

ATTORNEY GENERAL'S OFFICE,
INDIANAPOLIS, June 25, 1885.

Dr. C. N. Metcalf, Secretary of State Board of Health.

Sir—You submit to me the following questions, and solicit answers thereto:

1. "Can the General Assembly enact a law to regulate the practice of medicine?"

The right of every person to pursue any lawful calling he may see fit, and to do so in his own way, not encroaching on the rights of others, is recognized in this country, subject to such restrictions as may be deemed necessary for the public welfare, and none other. (Ex-parte Spinney, 10 Nev. 323, 334.)

The General Assembly may require the possession of certain qualifications to entitle a person to pursue the medical profession.

The right to reasonably regulate the practice of medicine rests on the police power of the State, which extends to the protection of the lives, limbs, health, comfort and quiet of all persons within the State. It subjects persons and property to burdens and restraints, in order to secure the general comfort, health and property of the State. (Cooley Const. Lim., Side page 572, 573, 574.)

The vocation of the physician is laudable and lawful, and the right of any person to engage in it is subject to such restrictions only as the Legislature may reasonably impose, in the exercise of its general police power. Laws of this kind have been sustained by the courts, and held to be constitutional.

Q. 2.—"What constitutes a reputable Medical College under Section 2 of the statute, and what evidence is required thereof?"

Section 1 and 2 of said statute are as follows: Section 1, "Be it enacted by the General Assembly of the State of Indiana that it shall be unlawful for any person to practice medicine, surgery or obstetrics in this State without first obtaining a license so to do, as hereafter provided."

Sec. 2. "Any person desiring to practice medicine, surgery or obstetrics in this State, shall procure from the Clerk of the Circuit Court of the county wherein he or she desires to practice, a license so to do, which license shall be issued to such person only when he or she shall have complied with the following conditions, to-wit: When such applicant shall file with such Clerk his or her affidavit, stating that such applicant has regularly graduated in some reputable medical college, and shall exhibit to such Clerk the diploma held by such applicant, or when such applicant shall file with such Clerk his or her affidavit, and the affidavit of two reputable freeholders or householders of the county, stating that he or she has resided and practiced medicine, surgery and obstetrics in this State continuously for ten years immediately preceding the date of the taking effect of this act, stating particularly the locality or localities in which he or she practiced during such period, and the date and length of time in each locality, or when such applicant shall file with such Clerk his or her affidavit and the affidavit of two reputable freeholders or householders of the county, stating that he or she has resided and practiced, medicine, surgery and obstetrics in this State continuously for three years immediately preceding the date of the taking effect of this act, stating particularly the locality or localities in which he or she practiced during said period, and the date and length of time in each locality, and that he or she had prior to said date attended one full course of lectures in some reputable medical college. Such applicant shall pay to such Clerk for

such license the sum of $1.50, and such Clerk shall record such license, together with the name of the college in which such applicant graduated, and the date of his or her diploma, in a book to be kept for such purpose, and which shall be a public record."

1. No particular school or system of medical practice is preferred by the law, and no rights are conferred upon one not accorded to all, and a practitioner in his treatment is to be tested by the general doctrines of his school, and not by those of other schools and systems of medicine.

All recognized schools and systems of medicine stand equal before the law and equally reputable. The statute does not require the medical college to be incorporated from which the certificate or diploma is derived. (Holmes vs. Holde, 74 Me., 28–38.)

Every institution, whether incorporated or unincorporated, organized in good faith for scientific instruction in medicine, surgery or obstetrics, and in which such scientific instruction is systematically imparted, without regard to the school of medicine under whose control or management it is, is a reputable medical college within the meaning of the statute.

The graduation in, and diploma from a college, referred to by said statute, are not limited to an institution within the State of Indiana, or the United States.

2. Under the statute, when an applicant shall file with the Clerk his or her affidavit, stating that such applicant has regularly graduated in some reputable medical college, and shall exhibit to such Clerk the diploma held by such applicant, it becomes the duty of the Clerk to issue to such applicant a license to practice his profession. This is the only condition prescribed by the statute, and the officer can not require more from such applicant.

Q. 2.—"Will the physician holding a certificate of membership of fifteen years standing in a Homœopathic Medical Society of another State, and has had ten years, though not continuous, practice in Indiana, be entitled to a license to practice medicine in Indiana?"

A certificate of membership in a medical society confers no rights under the statute. The statute requires the Clerk to issue a license to three classes of physicians.

1. Where the physician has graduated in some reputable medical college, and has received a diploma.

2. Where he has resided and practiced medicine, surgery and obstetrics in this State continuously for ten years immediately preceding the date of the taking effect of the statute.

3. Where he has resided and practiced medicine, surgery and obstetrics in this State continuously for three years immediately preceding the date of the taking effect of this act, and has attended one full course of lectures in some reputable medical college. The letter of the statute requires the applicant to have resided and practiced medicine, surgery and obstetrics in this State continuously for ten years. A similar statute has been sustained and held to be constitutional.

The letter of our statute also requires the applicant to have practiced medicine, surgery and obstetrics in this State continuously for ten years, immediately preceding the date of the taking effect of the statute. In Wert vs. Clutter (37 Ohio St., 347) it was held that such ten years of continuous practice may embrace time since as well as before the taking effect of the statute, but the statute in Ohio is unlike our statute on this subject.

In ex parte Spinney (10 Nev., 323) Beatty, J., held "that there is some reason for requiring ten year's practice in this State as a qualification for the continued practice of medicine and surgery, but there is no sort of reason for requiring that practice to have extended over the particular ten year's 'immediately preceding the enactment of the law,' and to this extent the law is unconstitutional. To so decide, however, would leave a good and perfect statute, omitting only the words 'next preceding the passage of this act.'" In this latter proposition there was no concurrence by the other Judges, but Hawley, C. J., held said clause to be constitutional, and it is proper to follow the letter of the statute, which declares that the applicant must have resided and practiced medicine, surgery and obstetrics in this State continuously for ten years, immediately preceding the date of the taking effect of the statute, before a license may be issued. The term "continuous practice," in the sense of the statute, does not mean constant practice, never ceasing.

It is not necessary that a physician should have a patient each day during the ten years immediately preceding the operation of the statute to have been in continuous practice and to obtain a license.

No criterion can be established on the basis of the quantity of business enjoyed by a physician to determine whether he has or not continuously practiced his profession for said time.

If for said time the practice of medicine, surgery and obstetrics has been his profession and business, and he has not wholly abandoned it for another occupation, and he has practiced his profession as often as he has had requests and occasion to do so, I think he may be deemed to have continuously practiced medicine, surgery and obstetrics for ten years immediately preceding the operation of the statute, and is entitled to a license.

Q. 3.—"Is a certificate of membership from either State Medical Society of this State sufficient to entitle the holder to a license to practice medicine in the State, provided the holder has never attended a medical school, and has not been in continuous practice in the State for ten years previous to the taking effect of the medical act?"

A.—No.

Q. 4.—"Does the statute apply to a person who undertakes to cure diseases by manipulating the patient's body, by rubbing, kneading and pressure?"

A.—The statute applies to persons desiring to practice medicine, surgery and obstetrics only, and it ought not to be so construed as to cover persons not substantially within its terms.

In Wert vs. Clutter, supra, the Court says: "This statute was not intended to create a right in anyone to practice medicine. It was simply intended to prohibit the exercise of the right (which before was

universal) by unqualified persons. The right remains in all persons, except those from whom it is taken away by the statute."

In Bibber vs. Simpson (59 Me., 181) suit was instituted for $51 for services rendered the defendants intestate, at his special request, by the plaintiff as a clairvoyant.

It appeared from the plaintiff's testimony that she professed to be a clairvoyant; that when asked to examine the patient she saw the disease and felt as the patient did; that sittings or seances were of different durations,from one-quarter to one-half of an hour each; that she did not pretend to understand medicine or anatomy; that she was requested by the intestate to visit him and render him professional services, and did so as by the account; that she helped him, but he died from taking cold; acquainted him with the prices, and he agreed to pay them, but never did.

Appleton, C. J., in deciding the case, says: "The services rendered are medical in their character. True, the plaintiff does not call herself a physician, but she visits her sick patients, examines their condition, determines the nature of the disease and prescribes the remedies deemed by her most appropriate. Whether the plaintiff calls herself a medical clairvoyant, or a clairvoyant physician, or a clear-seeing physician, matters little; assuredly, such services as the plaintiff claims to have rendered, purport to be, and are to be deemed, medical, and are within the clear and obvious meaning of R. S., 1871, c. 13, Sec. 3, which provides that 'no person, except a physician or surgeon, who commenced prior to Feb. 16, 1831, or has received a medical degree at a public medical institution in the United States, or a license from the Maine Medical Association, shall recover any compensation for medical or surgical services, unless previous to such services he had obtained a certificate of good moral character from the municipal officers of the town where he then resided. The plaintiff has not brought herself within the provisions of this section, and cannot maintain this action."

In Smith vs. Lane (24 Hun., 632), Daniels, J., says: "The action was brought to recover the price which it was alleged the defendant agreed to pay the plaintiff for the treatment of himself and wife for certain bodily disabilities. It consisted entirely of manipulations with the hands. It was performed by rubbing, kneading and pressure. The evidence given by the plaintiff was to the effect that he was employed by the defendant to perform these services for a specific compensation, and that he had performed them until the amount due him was the sum of $149. Upon the close of the case on his part, the referee dismissed the complaint because it appeared that the plaintiff was not a graduate of any medical school, and had no license permitting him to practice either medicine or surgery. The direction was given because of the prohibition contained in Chapter 436 of the laws of 1874, and, as no other reason appeared in the case, or the evidence which was given that would prevent the plaintiff from recovering, and whether this act contains anything subjecting him to such disability, is the only substantial point which requires to be considered in the case. The statute in terms merely declared it to be a misdemeanor for any person to practice medicine or surgery who is not authorized to do so by a license or diploma from some chartered school, State Board of Medical Examiners, or Medical Society, or who shall practice under cover of a medical diploma illegally obtained, and for the purpose of qualifying a person neither licensed nor possessing a diploma of the nature of that mentioned to practice medicine or surgery, it was provided that he should obtain a certificate from the censors of a medical society either in the county, district or State, in which it should be set forth that he had been found qualified to practice all the branches of the medical art mentioned in it. It appears to be quite manifest that the object of the Legislature in the enactment of this chapter was only for regulating the practice of medicine or surgery, as those terms are usually or generally understood, and confining them to such significance, it is evident that they would not include the occupation of the plaintiff. The practice of medicine is a pursuit very generally known and understood, and so also is that of surgery. The former includes the application and use of medicines and drugs for the purpose of curing, mitigating or alleviating bodily disease, while the functions of the latter are limited to manual operations usually performed by surgical instruments or appliances. It was entirely proper for the Legislature by means of this chapter to prescribe the qualifications of the person who might be intrusted with the performance of these very important duties. The health and safety of society could be maintained and protected in no other manner.

"To allow incompetent or unqualified persons to administer, or apply medical agents, or to perform surgical operations, would be highly dangerous to the health as well as the lives of the persons who might be operated upon, and there is reason to believe that lasting and serious injuries as well as the loss of life have been produced by the improper use of medical agents and surgical implements and appliances. It was the purpose and object of the Legislature by this act, to prevent a continuance of deleterious practices of this nature, and to confine the uses of medicine and the operations of surgery to a class of persons who, upon examination should be found competent and qualified to follow their professional pursuits. No such danger could possibly arise from the treatment to which the plaintiff's occupation was confined. While it might be no benefit, it could hardly be possible that it could result in harm or injury, and for that reason no necessity existed for interfering with this pursuit by any action on the part of the Legislature. His system of practice was rather that of nursing than of either medicine or surgery. No bodily disability or diseases could either result from or be aggravated by the applications made by him, and what he did in no just sense either constituted the practice of medicine or surgery. He neither gave or applied drugs or medicine, nor used surgical instruments."

It is my opinion that our statute is susceptible of the same construction expressed in said case of

Smith vs. Lane, and that our statute does not cover the person embraced by your question, and that he is not required to procure a license.

Q. 5—"Must women practicing obstetrics take out a license?"

A.—No. Women practicing obstetrics are expressly exempted from the operation of the statutes.

Respectfully, FRANCIS T. HORD,
Attorney-General.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Port-wine in Gout—National Sanitary Congress—The Effects of Lightning—Sée's Treatment of Obesity.

Certain classes of sufferers will derive comfort from the teachings of Dr. Peter Hood and Dr. Morton Granville. They are alike in recommending the use of port-wine matured in the wood, as a customary stimulant between the attacks of gout. Dr. Hood says: "Notwithstanding its bad reputation as a cause of gout, there is no more wholesome wine than genuine port, when it is well matured; and the chief fault which can be imputed to it is that of palatability, which renders people disposed to partake of it too liberally. The wine merchant will allege that long keeping in wood will deprive the wine of two of its most valued qualities, color and flavor. This may be disputed, but it does not admit of doubt that wines so treated are far more wholesome than those which are bottled earlier. Two or three glasses daily of such wine will act as a grateful stimulant to the stomach, and will assist digestion, but a larger quantity will produce defective assimilation, and those who so exceed must not be surprised if they become victims of gout.

Dr. Mortimer Granville says, in his "Gout in its Clinical Aspects:" Stimulants are almost always, I believe, necessary in cases of a gouty tendency, and during the intervals of the attacks I impose no restriction except that all alcoholic beverages shall be taken with food, and that new or imperfectly fermented wines shall be avoided. Port which has been long enough in the wood to be thoroughly matured before bottling I regard as not only permissible, but to be recommended, particularly in the cases of those who are subjected to much mental worry. It may be gathered from other paragraphs that the two authors also concur in the belief that the real or supposed injuriousness of alcoholic liquids in gout is not to be ascribed to the alcohol which they contain, but rather to some products of imperfect or incomplete fermentation; and it is good to be able to place on record their protest against the recommendation of "intemperate abstinence" which has of late years found favor with certain classes of practitioners and patients.

In another work on Gout by Dr. Robson Roose, the volume has its *raison d'être* in a desire to emphasize the degree in which gout is dependent upon derangement of the liver, to which other symptoms are but secondary. In this view both the preceding writers are in accord with him, even if they do not give so much prominence to the doctrine; and it may be said, generally speaking, that the tendency of modern medicine is towards a close study of the functions and derangements of this most important organ, which a few years ago had been somewhat dethroned from the position in medical estimation which it held in the days of Abernethy and his school, and was neglected for a more accurate study of the action of nerve influences in the production of disease. There is always a risk when one class of considerations is brought into prominence by the progress of scientific discovery, that others of equal significance may for a time be left out of account.

The National Sanitary Congress has had a successful meeting at Leicester, under the presidency of Professor de Chaumont, who delivered the inaugural address. Referring to the progress of sanitary science, he instanced the increased and increasing healthiness of British troops. Thirty years ago, the death-rate in the army at home was eighteen per 1,000, while the returns of 1883 showed that it had diminished to six per 1,000. In India and the West Indies the decrease was still more marked. With regard to the duration of life, he said that the average of the metropolis was about forty-one, including such extremes as St. George's-in-the-East, in which overcrowded parish it was only twenty-eight, and Hampstead, where it was fifty-six. In conclusion, the President referred to vaccination, calling it one of the greatest boons ever conferred on humanity. A discussion took place as to the relative merits of isolation as opposed to vaccination for the prevention of small-pox, in which the Leicester speakers strongly upheld the former.

Dr. Liman has recently made some interesting observations on the effects of lightning exhibited in the bodies of two men who were struck down while taking shelter from a storm beneath trees. The hair was singed, and the skin in many places discolored. On one of the bodies was seen one of those peculiar figures which have often been described as impressions of branches, twigs, etc., and which have given rise to the fiction that the body of a person struck by lightning will sometimes bear a kind of photographic picture of the trees, etc., near him. In this case the figure resembled a palm leaf, but it was traced to the contact of the folds of the shirt, such parts as were under pressure remaining white, the rest being discolored brown. In the case of both men, some of the internal organs were ruptured.

Mr. Wynn Westcott, M.B., London, the Deputy Coroner for Central Middlesex, has written a book on "Suicide," in which he deals with its history, literature, jurisprudence, causation and prevention. It would seem that nowadays, at least, the number of suicides in all great towns vastly exceeds that of those in the country. Moreover, single persons are more susceptible to suicidal mania than married, while widowed people of either sex are singularly apt to seek relief from their sorrows in death. Climate and race, too, affect singularly the statistics which Mr. Wynn Westcott has been at the pains to collect. As remedies against the self-destructive tendency, he

mentions "occupation for the mind of a comforting character, if possible, and cultivation of a religious conviction of the sanctity of life and the sin of self-inflicted death."

A few days ago, Dr. Germain Seé read a paper on the treatment of obesity. The method which he adopted for getting rid of superfluous flesh is simple, and does not involve so severe a regimen as that prescribed by the late Mr. Banting. Azotized food is, the doctor holds, the great cause of fat, and accordingly he insists on a sparing consumption of meat. Alcoholic beverages he proscribes altogether, but he allows the victims of corpulency as much tea as they can drink. This is the entire programme, and the professor is confident that it suffices.

G. O. M.

DOMESTIC CORRESPONDENCE

ARTIFICIAL ANÆSTHESIA.

To the Editor of the Journal:

Dear Sir:—I am very much surprised to see the statement made by your London correspondent pass into your Journal without comment in regard to the discovery of anæsthesia. He states as follows: "Dr. Simpson has the reputation of having been the discoverer of anæsthesia like Dr. Harvey, they were really the men who brought the discoveries practically into use, and pointed out to us clearly and truthfully the *modus operandi* of the circulation and anæsthesia.[1]"

The following are the facts in the case as to the "Discovery of the Art of Artificial Anæsthesia."

ANÆSTHETICS OF THE ANCIENTS.[2]

"The ancient Greeks, it is stated, possessed a plant called mandrake. It belonged to the same family of plants as the belladonna, or deadly nightshade. From the root of this plant was extracted, by means of wine, a narcotic which was employed by them as an anæsthetic. Lucius Apuleius, who lived about 160 A. D., and of whose works eleven editions were republished in the fourteenth and fifteenth centuries, says, 'that if a man has to have a limb mutilated, sawn, or burnt, he may take half an ounce of mandragora wine, and whilst he sleeps the member may be cut off without pain or sense.' Another fact was noticed by the ancients, that many volatile substances acted more promptly by inhalation than by the stomach, and this form of medication was employed in Greece, Rome, and Arabia. By their published works, the knowledge of these facts was extended to other parts of the world.

"In China, in ancient times, the word *ma-yo* meant not only Indian hemp, but anæsthetic medicine; other substances besides hemp entered into these benumbing recipes, such as the datura, a solanaceous plant, probably identical with the atropia mandragora; also aconite, hyoscyamus, etc. Some of these drugs form constituents of the formula said to be employed by kidnappers of children, and robbers, and are therefore naturally forbidden in China, at the present time, to be sold or employed.

"The Indian hemp, under the name *bhang*, was extensively used by the Mohammedans and others in Central Asia. The most wonderful properties are ascribed to it. 'Taken in excess, the spirits and demons may be seen; it confers prophetic powers; it is sometimes taken by persons wishing to indulge in spiritualism, and it is used as an antidote to forgetfulness.' (Dudgeon).

"A strong impulse was given to the study and application of the 'different kinds of airs and gases' by the discovery of oxygen by Priestley and Scheele, in the middle of the last century, and numerous experiments were made by physicians with it. Another still more practical result was obtained by Sir Humphrey Davy, and published in 1800. 'That nitrous oxide appears capable of destroying physical pain, and may be used with advantage during surgical operations.' This valuable and practical suggestion remained without fruit for a long time, and the surgeons, physicians, and accoucheurs still employed alcohol, in some form, or opium and its salts, to deaden as far as possible the sensibility to pain during their various operations. It was not until 1844 that an effort was made in the United States to make Davy's discovery useful, by Dr. Wells, a dentist of Hartford, Connecticut, U. S., who made, December 11th, 1844, the first application of the nitrous oxide gas to relieve the pain of the extraction of a tooth. But the crowning result was obtained in 1846 by Dr. Morton in the Massachusetts General Hospital, where it was demonstrated successfully that the inhalation of 'ether' was capable of so deadening the sensibility of the nervous system, that any operation, no matter how painful, could be performed, and the patient not suffer from its effects. It was also proven that ether was a safe anæsthetic if in a proper case, and dose was administered by a competent individual; this was done first by the late Dr. John C. Warren,[1] of Boston, through whom it was introduced to the profession. It was not until 1847 that Dr. Simpson discovered chloroform to be a substitute for ether."[2]

The whole world owe the United States a debt of gratitude for the introduction and practical application of the two safest and most effectual anæsthetics, nitrous oxide, and ether. American men of science have done more than all others in the discovery and employment of anæsthetics, and should therefore receive the credit due to them.

Laurence Turnbull, M.D.

Philadelphia, Oct. 26, 1885.

TUBELESS TRACHEOTOMY.

To the Editor of the Journal:

Dear Sir:—During the past few years, at the meeting of the various medical societies, I have heard my friend, Dr. Byrd, make the statement that the method of treating a case of tracheotomy without a tube, or what has been called *tubeless tracheotomy*, was origi-

[1] Journal American Medical Association, Oct. 24, 1885.

[2] Dr. L. Turnbull's Introduction to his first edition of his Manual of Anæsthesia, March, 1878.

[1] The Advantages and Accidents of Artificial Anæsthesia, by Laurence Turnbull, M.D., Philadelphia, 1878, p. 208.

[2] Surgical observations with cases made by I. Mason Warren, M.D., page 614.

nated by Dr. Henry A. Martin, of Boston, and he repeats the statement in his remarks on "Tetanus," in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, of October 10, 1885, page 400.

Now conceding all that Dr. Byrd says of Dr. Martin as a distinguished surgeon, he did not originate, introduce, or suggest this method of tracheotomy; and I cannot think that Dr. Martin ever claimed it. Dr. Daniel Brainard was the surgeon who first made known and advocated this method, and it should be known as Brainard's operation for tracheotomy. In the *American Journal of the Medical Sciences*, vol. xxxviii, page 291, in an article entitled "Suggestions of Improvements in Tracheotomy, by Daniel Brainard, M.D., of Chicago," will be found a complete description of this method; and in the *Chicago Medical Journal*, for 1859, page 134, after reporting a case operated on in this way, he goes on to say:

"The suggestions which I have to offer in regard to tracheotomy, relate to the means of preventing hæmorrhage, to keeping the opening made by the operation pervious without resorting to a tube, and at the same time controlling the entrance of cold air abruptly into the lungs. . . . In order to prevent hæmorrhage I proceed in the following manner: Having incised the skin and fascia by successive and careful incisions, I press the sterno hyoid, and sterno thyroid muscles to each side with the fingers, and thus expose the thyroid body. This effected, I pass under the isthmus a director curved, or an aneurismal needle. This is followed by a common suture needle, which may be passed with the blunt end foremost, armed with two very strong ligatures. A ligature is then tied very firmly on each side, and the isthmus of the thyroid body divided between them. A little dissection with a blunt instrument denudes the trachea to the required extent, and an opening can be made without danger of a drop of blood being drawn into it.

"The ligatures which have been thus secured, serve the purpose of fixing the trachea, if desirable, and they may be tied behind the neck so as to raise it forward, and keep the wound open. I never open the trachea until the hæmorrhage is stopped, and a large surface of it has been quite denuded." 2. *'Keeping the opening in the trachea pervious without resorting to a tube.'*—The objections to a tube are twofold: 1st, When the operation is performed for the extraction of a foreign body, it prevents its exit; and it is desirable to leave this opening in such a state that the foreign substance may escape whenever it becomes loosened from its situation in the bronchia. 2d, In tracheotomy for croup, the prolonged sojourn of the tube has been considered, by the most eminent surgeons, as a cause of the pneumonias, which so frequently are the cause of death.

"The necessity for using the tube I avoid by the following means: Having denuded the trachea, insert a small suture needle, armed with a ligature, beneath two of its rings. Withdraw the needle, and drawing gently upon the thread, make a semi-circular incision on one side, so as to form a valve, readily opened by drawing upon the thread. The opening thus formed can be kept patent, or be allowed to close at will."

It will thus be seen that what Dr. Byrd claims for Dr. Martin should be credited to Dr. Brainard—a man who posessed a powerful and commanding intellect, who was a great and original genius in surgery, and who made many improvements and suggestions for the advancement of his favorite branch. Prof. Gross expressed his estimate of the man when he said: "There are three great surgeons now living, and of the three Brainard is not the least."

Just now we frequently read in extracts from foreign journals about Martin's method of treating spina bifida with iodine injections, a plan originated and successfully used by Brainard thirty-five years ago, and the work of the Western surgeon is entirely ignored. *Honor to whom honor is due.*

MADISON REECE, M.D.

Abingdon, Ill., Oct. 15th, 1885.

BOOK REVIEWS.

1. SITZUNGSBERICHTE DER PHYSIKALISCH-MEDICINISCHEN GESELLSCHAFT ZU WÜRZBURG. 8vo., pp. 164. Jahrgang, 1884.
2. VERHANDLUNGEN DER PHYSIKALISCH-MEDICINISCHEN GESELLSCHAFT ZU WÜRTZBURG. Herausgegeben von der Redactions-Commission der Gesellschaft, DR. JOHANNES GAD, PROF. DR. W. REUBOLD, DR. KONRAD RIEGER. Neue Folge, XVIII Band. 8vo., pp. 321. Würtzburg.

PROCEEDINGS OF THE PHYSICO-MEDICAL SOCIETY OF WÜRTZBURG. Würtzburg: Stabel's University Press.

We feel somewhat disposed to quarrel with the Publication Committee of the Würtzburg Society for delaying the publication of these proceedings of 1884 until the middle of the present year. Some of the papers and discussions are quite valuable, and all are more or less interesting; and there seems to be no good reason why they—the medical papers, at least—should not have been before the profession some time ago.

1. The first paper in this volume is an interesting contribution to the subject of "Contortionists," by Hans Virchow. And why the author should have gone out of his way to use such a word as *Schlangenmenschen* for *Contortionists* passes all understanding, especially as two highly educated Germans declared, on seeing the title, that it meant "Snake-charmers." Be this as it may, the paper is an interesting contribution to the anatomy of contortionists.

Dr. H. Maas contributes three papers to this volume, the first concerning *Plastic Operations in the Treatment of Ulcers;* pediculated flaps being turned from the adjacent sound parts, but a piece of healthy skin is left between the ulcer and the place whence the flap is taken; a method which, on histological grounds, is recommended by Kölliker. His second paper is on the *Operations for the Cure of Ulcers of the Heel.* After mentioning the operations recommended and performed by Mickuliez, Billroth and Czerny, the last two being by using granulating skin-flaps, he refers to the operation recommended years

ago by Wutzer and Scymanovsky—extirpation of the ulcer and transplantation of pediculated flaps. He then reports an interesting case operated upon in this manner. The third paper is the report of a remarkable case of *Lymphangioma* (with exhibition of patient). The patient was three years old, with an undescribed combination of lymphangiomatous tumors, with vascular angiomata of the skin. On the patient's neck was a cystic lymphangioma; on the lower lip was a capillary tumor with perhaps cavernous dilated lymph-vessels; and in the right parotid region was a cavernous lymphangioma.

Von Kölliker also contributes three articles, on the "Non-Existence of Embryonal Connective-tissue Cells," the "Anatomy of the Clitoris," and on "Twin-formation in Mammals." Ph. Stöhr has an article on "The Tonsils in Pyopneumothorax," and "Mucous Glands," which are chiefly of pathological interest. Kirchner also has two papers, on "Cholesteatoma of the Temporal Bone," and "The Relation of Aural to General Diseases." J. Gad has a short paper on the "Paths of Transmission and Centres in the Spinal Cord of the Frog." Rindfleish has a paper on the "Differential Diagnosis of Diphtheritic Tonsillitis;" Rosenberger one on "Incarceration and the Radical Operation of Large Herniæ;" and Rieger a long article on "Progressive Paralysis."

2. The second volume opens with a paper on the "Diagnostic Value of the Tubercle Bacillus," by Friedrich Müller, which contains nothing that could now be considered new. C. Fr. W. Krukenberg has a long article on "Hyaline," a chemico-physiological study from the Würtzburg Institute. He also has an article on "Some Important Color-Reactions." Of great interest is A. Kölliker's address at the opening of the new Anatomical Institute in Würtzburg in 1883. Dr. A. Hausmann, formerly of St. Louis, contributes some "Observations on Yellow Fever." Gad has a very long and interesting study on the same subject as in the paper in the first volume considered. A. Fick concludes the volume with a discussion of "Myothermic Questions and Experiments."

ASSOCIATION ITEMS.

HONOR PRIZES.

REPORT OF THE COMMITTEE.

At the last meeting of the American Medical Association, in order to stimulate original research, a resolution was adopted offering *First and Second Honor Prizes* in each of the Sections for original papers in the same. And in pursuance of a resolution, instructing the President of the Association to appoint a Committee of three, who should report subsequently through the JOURNAL, and "whose duty shall be to devise a system for the awarding of honors to those who may desire to present papers for prizes of honor in the different Sections at the next meeting of this Association," your Committee beg leave to report the following rules:

1st. No paper shall exceed thirty minutes in length.

2d. All papers must be sent sealed to the Secretaries of the Sections to which they belong, under a *nom-de-plume*, with the real name and accompanying *nom-de-plume* sealed in envelopes and inclosed with the essays together with the real names and the *nom-de-plume* of the papers to which they belong.

3d. There shall be three judges appointed in each Section on the afternoon of the first day: one by the Chairman, one by the Secretary of the Section, and a third by the Section at large, who shall examine the papers, and decide on their merits, after which they shall return them to the Secretary, with the papers securing "first" and "second honor" so marked, and signed, by the judges concurring in that opinion; after which the Secretary shall open the corresponding envelopes in the presence of the judges, and announce the names of the authors securing the honors, who shall read their essays to the Sections to which they belong, as regular productions.

If deemed worthy by the judges, all such other papers as are deemed meritorious by the judges, may be read before the Sections to which they belong, by their respective authors, who may obtain them at the hands of the Secretaries to whom they were first delivered.

4th. All papers competing for honors shall be in the hands of the Secretaries of the Sections to which they belong at least one week previous to the meeting of the Association at which they are to be presented.

5th. The judges are authorized to refuse honors to all papers deemed unworthy.

6th. No persons except members of the regular profession, will be deemed eligible to compete for honors.

7th. In the absence of their authors, papers receiving honors may be read by the Secretaries of the Sections in which they are presented.

(Signed)

R. HARVEY REED, Mansfield, O.,
JOHN H. HOLLISTER, Chicago, Ill.,
JOHN MORRIS, Baltimore, Md.,
Committee.

NINTH INTERNATIONAL MEDICAL CONGRESS, WASHINGTON, D. C., 1887.

[The following are some of the more important Rules adopted relating to the preliminary organization of the Congress.—ED.]

1. The Congress shall consist of members of the regular profession of medicine, who shall have inscribed their names on the register and shall have taken out their tickets of admission; and of such other scientific men as the Executive Committee of the Congress may see fit to admit.

2. The dues for members of the Congress shall be ten dollars each for members residing in the United States.

There shall be no dues for members residing in foreign countries.

Each member of the Congress shall be entitled to receive a copy of the "Transactions" for 1887.

3. The Congress shall be divided as follows, into seventeen Sections:

I. General Medicine.
II. General Surgery.
III. Military and Naval Surgery.
IV. Obstetrics.
V. Gynæcology.
VI. Therapeutics and Materia Medica.
VII. Anatomy.
VIII. Physiology.
IX. Pathology.
X. Diseases of Children.
XI. Ophthalmology.
XII. Otology and Laryngology.
XIII. Dermatology and Syphilis.
XIV. Public and International Hygiene.
XV. Collective Investigation, Nomenclature, Vital Statistics, and Climatology.
XVI. Psychological Medicine and Diseases of the Nervous System.
XVII. Dental and Oral Surgery.

4. The General Meetings of the Congress shall be for the transaction of business and for addresses and communications of general scientific interest.

* * * * * * * *

8. The official languages of the Congress shall be English, French, and German.

In the meetings of the Sections, no member shall be allowed to speak for more than ten minutes, with the exceptions of the readers of papers and those who introduce subjects for discussion, who may each occupy twenty minutes.

9. The rules and programmes shall be published in English, French, and German.

Each paper and address shall be printed in the "Transactions" in the language in which it was presented, and preliminary abstracts of papers and addresses also shall be printed, each in the language in which it is to be delivered.

All discussions shall be printed in English.

10. The President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of the Sections, shall together constitute an Executive Committee of the Congress, which Committee shall direct the business of the Congress, shall authorize all expenditures for the immediate purposes of the Congress, shall supervise and audit the accounts of the Treasurer, and shall fill all vacancies in the offices of the Congress and of the Sections. This Committee shall have power to add to its membership, but the total number of members shall not exceed thirty. A number equal to one-third of the members of the Committee shall constitute a quorum for the transaction of business.

11. The Officers of the Congress shall be a President, Vice-Presidents, a Secretary-General, four Associate Secretaries, one of whom shall be the French Secretary, and one of whom shall be the German Secretary, a Treasurer, and the Chairman of the Finance Committee.

12. The officers of each Section shall be a President, Vice-Presidents, Secretaries, and a Council.

13. The officers of the Congress and the officers of the Sections shall be nominated to the Congress at the opening of its first session.

MISCELLANEOUS.

ALBERT OSBURN HOLMES, M.D., of Calico, San Bernardino Co., Cal., died on October 13. He graduated from Cooper Medical College in 1882.

FEMALE PHYSICIANS FOR INDIA.—A National Association, with the object of supplying female medical aid to the women of India, has been recently formed in Great Britain by Lady Dufferin—the wife of the Indian Viceroy—and has received the patronage of Queen Victoria.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 24, 1885, TO OCTOBER 30, 1885.

Major D. L. Huntington, Surgeon U. S. Army, detailed on Board to inspect Army and Navy hospital buildings at Hot Springs, Ark. (S. O. 245, A. G. O., Oct. 24, 1885.)

Major Henry McElderry, Surgeon, granted leave of absence for four months from Nov. 1, 1885. (S. O. 246, A. G. O., Oct. 26, 1885.)

Captain J. H. Patzki, Asst. Surgeon, appointed member of Board to meet at Forts Jackson and St. Philip, La., on Nov. 5, 1885, to select a site for the new quarters for the ordnance sergeants at those posts. (S. O. 230, Dept. East, Oct. 28, 1885.)

Captain G. H. Tomey, Asst. Surgeon, granted leave of absence for two months, to take effect after the return from leave of absence of J. C. Baily (Major). (S. O. 87, Div. Atlantic, Oct. 24, 1885.)

First Lieut. C. C. Barrows, Asst. Surgeon, in addition to his other duties, to take temporary charge of office of the Medical Division, Dept. Ariz. (S. O. 102, Dept. Ariz., Oct. 17, 1885.)

First Lieut. C. B. Ewing, Asst. Surgeon,—(Ft. Leavenworth, Kan.)—to accompany Congressional committee, of which Hon. W. S. Holman is chairman, in its visit of inspection through Indian Ter. (S. O. 160, Dept. Mo., Oct. 23, 1885.)

First Lieut. F. J. Ives, Asst. Surgeon, relieved from temporary duty at Ft. Laramie, Wyo., and ordered to Ft. D. A. Russell, Wyo. (S. O. 106, Dept. Platte, Oct. 22, 1885.)

Lieut. E. R. Morris, Asst. Surgeon (recently appointed), assigned to duty at Ft. Bayard, N. M. He will continue on detached service under orders of Dist. Comd'r. (S. O. 160, Dept. Mo., Oct. 23, 1885.)

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDED OCTOBER 31, 1885.

Austin, H. W., Surgeon, to proceed to Portland, Maine, on special duty. Oct. 31, 1885.

Carter, H. R., Passsed Asst. Surgeon, when relieved, to proceed to New Orleans, La., and assume charge of the Service. Oct. 27, 1885.

Battle, K. P., Asst. Surgeon, granted leave of absence for thirty days. Oct. 27, 1885.

Williams, L. L., Asst. Surgeon, to proceed to Chicago, Ill., for temporary duty. Oct. 28, 1885.

CORRIGENDUM.—In the article "Epidemic Cholera, its Symptoms, Pathology and Treatment," by Frederick Horner, M.D., in the JOURNAL of September 5, the prescription should read:

℞. Hydrarg chlor. mitis..... ℈i.
Morphiæ sulphat..... gr. iv.
Bismuthi nitrat..... ℥ss.
S. Divide into twelve powders; one every two hours.